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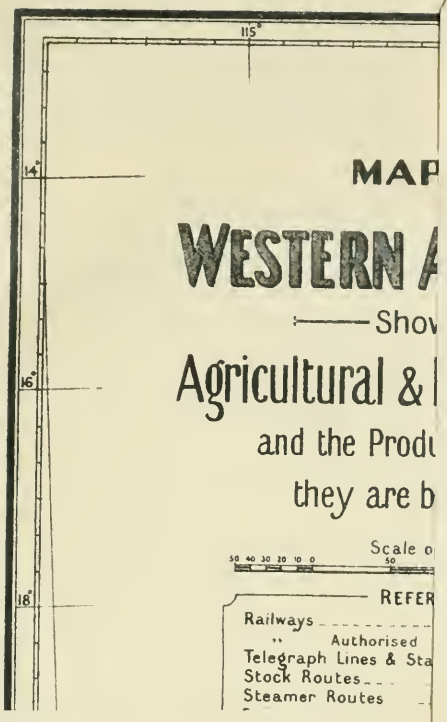
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MAP OF
WESTERN AUSTRALIA
Showing
Agricultural & Pastoral Lands
and the Products for which they are best suited.

By Authority FRED WM SIMPSON, Government Printer, Perth

WESTERN AUSTRALIA

ITS EARLY VICISSITUDES, ROMANTIC AWAKENING, DEVELOPMENT, AND PROGRESS.

ISSUED BY THE AUTHORITY OF

THE PREMIER, HON. J. MITCHELL, C.M.G.

PERTH:
FRED. WM. SIMPSON, GOVERNMENT PRINTER.
—
1920.

Hon. H. P. Colebatch, M.L.C.
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Premier & Treasurer

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Governor of Western Australia.

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Hon. T. P. Draper, K.C., C.B.E., M.L.A.
Attorney General

Hon. F. T. Broun, M.L.A.
Colonial Secretary

Hon. J. Scaddan, M.L.A.
Minister for Mines & Railways

Wild Flowers of Western Australia.

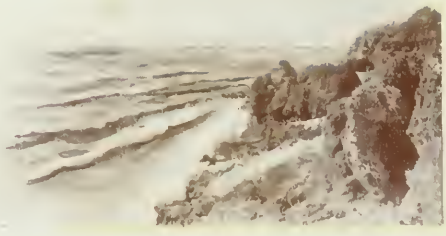
1. *Caladenia Longicauda* (Spider Orchid).
2. *Anigozanthus Manglesii* (Red and green Kangaroo Paw.)
3. *Hovea Trisperma* (Hovea).
4. *Caladenia Patersoni* (White Spider Orchid).
5. *Leschenaultia Biloba* (Blue Leschenaultia).
6. *Isotropis Striata.*
7. *Caladenia Flava* (Cowslip Orchid).
8. *Diuris Longifolia* (Stag's Head Orchid).
9. *Verticordia Grandis* (Crimson Verticordia).
10. *Burchardia Umbellata.*

11. *Clianthus Dampieri* (Sturt's Desert Pea).
12. *Anigozanthus Humilis* (Orange Kangaroo Paw).
13. *Caladenia Discoidea* (Small Spider Orchid).
14. *Chamaelaucium Uncinatum* (Wax Flower).
15. *Trichinium Obovatum* (Goldfields Clover)
16. *Hibiscus Huegelii* (Swan River Hibiscus).
17. *Banksia Coccinea.*
18. *Kennedya Nigricans* (Black and gold Kennedya).
19. *Thysanotus Dichotomus* (Fringed Lily).
20. *Cephalotus Follicularis* (Pitcher Plant or Fly Trap).

HOUTMAN, Dirk Hartog, Nuyts, Dampier, Vlaming — these and other names preserved in geographical nomenclature recall the deeds of doughty mariners of old who came and saw but did not conquer.

The "great South land" appealed not to them. "Coastline treacherous, mainland waterless, inhospitable and unfit for habitation by white people, natives hostile." Thus tersely may be summed up their impressions.

Centuries passed into history recording at most brief exploratory glimpses of the coast gleaned at long intervals by British, French, Dutch, and Portuguese voyagers. Still the island continent remained an enigma, steadfastly defying all attempts at solution from the West.



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Lapse of years brought Captain Cook's discoveries on the Eastern coast of Australia, but so late as the first quarter of the last century, Western Australia continued to be neglected save for coastal exploration.

Only when French exploration seemed to be taking a serious turn were the British colonisers in the newly settled Eastern Australia spurred to the extent of establishing sufficient outposts to definitely secure the Western portion of the continent for the British Crown.

The hoisting of the Union Jack, on Christmas Day, 1825, at the spot where the town of Albany now stands, marked the consummation of possession. The colony was proclaimed on 7th June, 1829, and, in the same year, the sites of the capital city of Perth and its chief seaport, Fremantle, were chosen.

Western Australia comprises one-third of the whole continent of Australia. Picture the enormous extent of territory this represents. From South to North it stretches nearly 1,500 miles. East and West it spans 1,000 miles. To the South it dips into the temperate latitude of 35 degrees, giving as equable and congenial a climate as can be found in any part of the world. Northward it reaches to within 14 degrees of the equator, keeping company latitudinally with such places as Brazil, Mozambique, and Samoa.

Albany—where the Union Jack was first hoisted

And just as there prevails between the two extremities of littoral a wide range of climates, so within the same mighty compass there are soils and natural resources of such extent, diversity and richness as are not found in any other single State on the globe.

Extensive agriculture followed the gold discoveries

Only by slow and tedious effort has Western Australia in the real sense been discovered. Though founded earlier than its immediate neighbour on the East, and doubtless under conditions that promised a future no less auspicious, the Western province continued to struggle in the throes of depression, stagnation and isolation long after the Eastern colonies were fairly established and even flourishing.

Not less intrepid were our explorers who blazed the trails ; not less indomitable the pioneers of settlement who followed up, and sometimes became the pathfinders to the interior. Yet for 60 long years growth was so feeble that the stoutest hearts might often have despaired.

But events are proving that Western as well as Eastern Australia has been bountifully endowed with natural wealth. May it not be that even choicer gifts have been bestowed on the Cinderella State for which reason Nature has exacted a greater toll of life and work ere consenting to give them up ?

Initial work on a Kalgoorlie bonanza

The year nineteen hundred and twenty marks the thirtieth anniversary of Responsible Government in Western Australia Practically coincident with the granting of self-government was the awakening of the State, commercially and industrially, and the great forward movement from the real dawn of our history is easily within the memory of the living. Where has fiction devised or realism rivalled a stranger romance than Western Australia's leap to fame? In a flash, as it were, the hitherto almost unknown portion of Australia had, through its gold discoveries, become world-famous, and soon was attracting adventurous spirits from all parts of the globe.

That was the starting point, and less than a decade sufficed to rise to the prestige of a place with the five sister States in the formation of the Australian Commonwealth.

Thus adventitiously stimulated by fortune, Western Australia seized her opportunity and set about the development of her resources and the establishment of industries. Railways were pushed out, water supplies were provided, harbours were constructed, and the policy of the country generally was directed to securing a permanent prosperity resting upon the infallible base of agricultural development.

Soil and climate are ideal for fruit growing

Of the success already achieved, more telling than general terms are the figures of the statistician. Though production still falls short of home requirements in some departments of rural activity, in others there are annually substantial surpluses for export, and be it remembered that this is the achievement of but a score of years.

On the Murray River

Near Armadale

Naturally this infant among the producing States has experienced somewhat of a set back due to the war, but with that exception the movement has been ever onward. And onward there is every prospect of it continuing. Land settlement is proceeding vigorously and on sound lines ; prospectors are testing the vast mineral areas with a zeal and thoroughness unknown before ; industries are regaining their pristine activity.

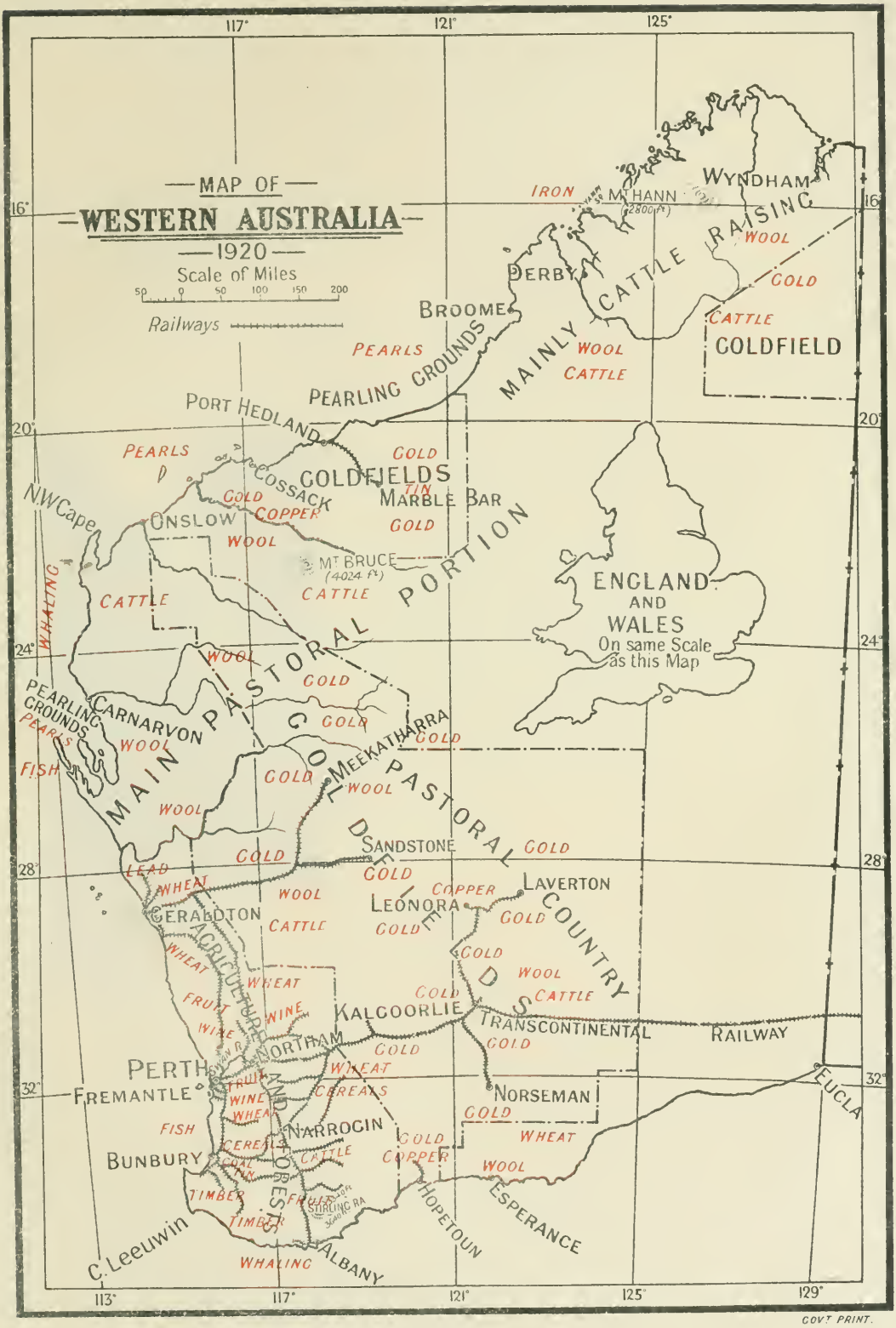
South coast scenery

Where acclimatised perch abound

What has been accomplished is but an earnest of what the future holds in store. It is the work of a community that at best has scarcely exceeded 300,000 souls ; it is work that has little more than touched the fringe of the immense resources awaiting exploitation. With the repatriation of her soldiers nearing completion, Western Australia is again turning to the interrupted policy of immigration, inviting compatriots across the seas to embrace the wider opportunities that she has to offer them.

By focussing the series of sketches that follow in the setting and perspective of Western Australia's brief history, one may judge of the sensible and substantial progress which the State has made towards a realisation of its inherent greatness.

How Swan River derived its name


MAP OF
WESTERN AUSTRALIA
1920
Scale of Miles
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Railways
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WOOL
CATTLE
PORT HEDLAND
PEARLS
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COSSACK
GOLDFIELDS
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MARBLE BAR
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COPPER
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CATTLE
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ENGLAND AND WALES
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CARNARVON
WOOL
FISH
GOLD
MEEKATHARRA
GOLD
WOOL
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WOOL
GOLD
PASTORAL COUNTRY
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LAVERTON
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GOLD
NORTHAM
PERTH
WHEAT
FREMANTLE
FRUIT
WINE
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CEREALS
NORSEMAN
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COPPER
BUNBURY
COAL
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TIMBER
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STIRLING RA
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ESPERANCE
C. Leeuwin
WHALING
ALBANY
AGRICULTURE AND FORESTS

GOVT PRINT.

Western Australia's area is 975,920 sq. miles or 624,588,800 acres—more than eight times the size of the United Kingdom. Of this immense area, three-fourths is more or less suitable for pastoral purposes, and 60,000 sq. miles for agriculture. Gold, coal, and other minerals in abundance are found, and wide stretches are covered with forests of great commercial value. The climate varies from temperate in the South to tropical in the North, but everywhere the conditions are healthy. The history of settlement and development has not shown one square mile where white men, even those from colder latitudes, cannot live and thrive.

The country is not mountainous. The highest point in the State—Mt. Bruce in the Ashburton District—reaches an altitude of 4,024 feet. The Stirling Range, 40 miles North-East of Albany is the loftiest in the Southern portion of the State, the summit of Bluff Knoll being 3,640 feet. The Darling Range stretches due north and south parallel with the Western coast for 300 miles. Its highest peak rises to 1,910 feet. The far interior is largely a great table-land varying from 1,000 to 2,000 feet above sea level.

Amongst the rocks at Cape Naturaliste

There is practically only one navigable river, the Swan, on the shores of which stands the capital city and at the mouth of which Fremantle has been built. The river is navigable by small vessels for about 20 miles. Some of the other rivers are perennial but some are simply huge storm water channels which during the summer diminish to a series of pools.

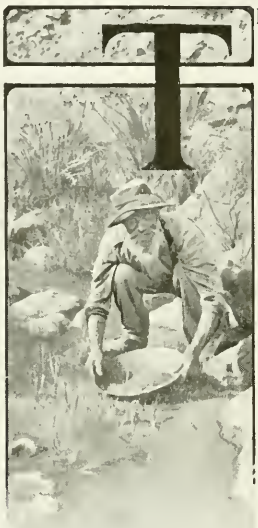
An upper reach of the Swan

In an eastern agricultural district

King's Park—a glimpse of Swan River

Section of the Golden Mile

GOLD MINING



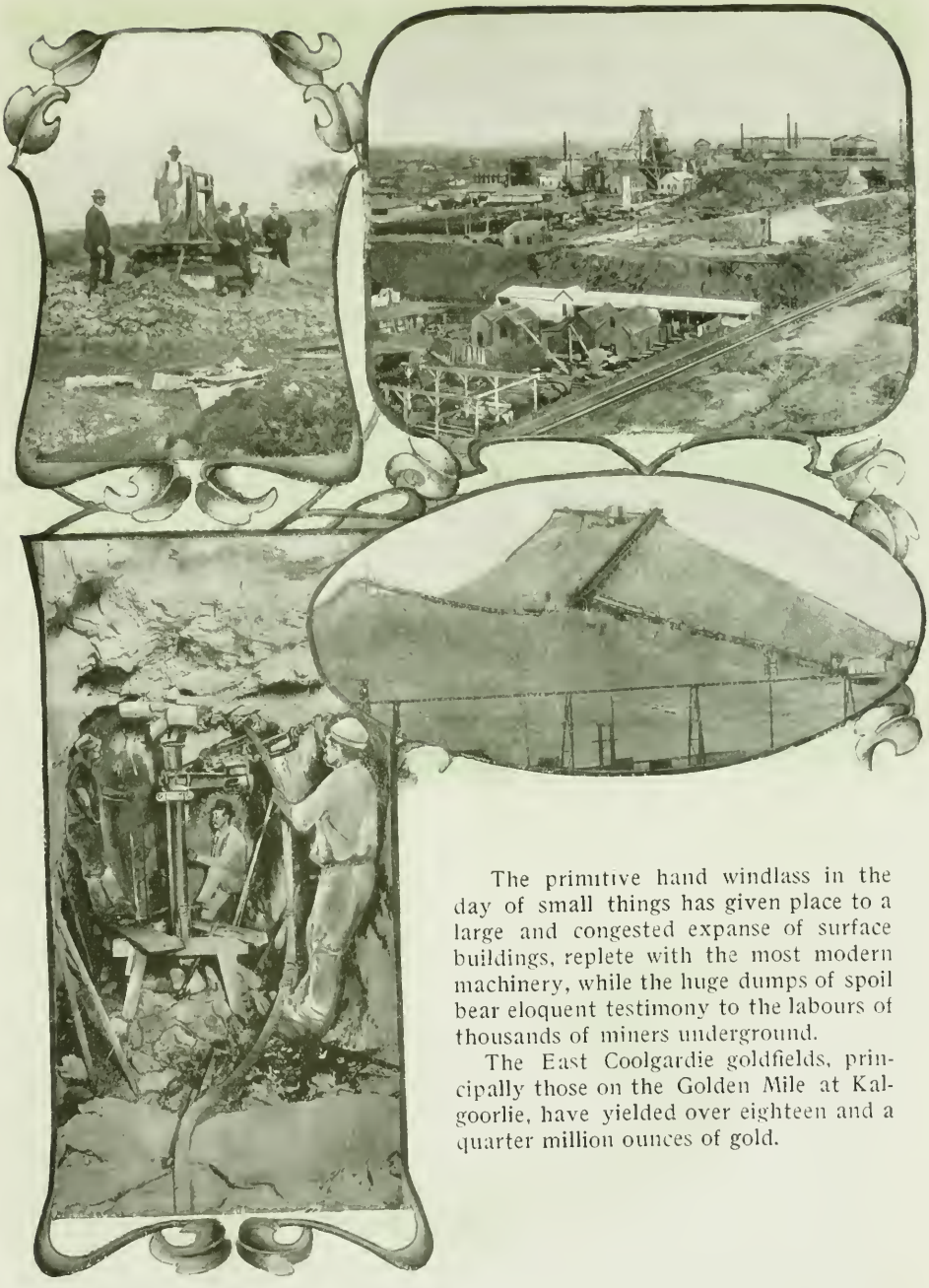
THE AWAKENING of Western Australia dates from the discovery of gold in 1885, but it was not until the early nineties that the wonderful finds at Coolgardie and Kalgoorlie attracted the attention of the world at large and finally dissipated the ignorance and prejudice which had previously existed.

From a gold output of the value of £1,148 in 1886, the yield leapt to a value of £8,770,719 in 1903. Since then there has been a gradual decline, but this was what was reasonably expected on the exhaustion of the phenomenally rich surface discoveries and the fact that the treatment of low grade ores has of late years been more extensively undertaken.

Between 1886 and the end of 1919, the total gold production was 33,130,549 ounces of the value of £140,730,000, and the dividends paid amounted to £27,424,700. Of the total, the East Coolgardie mines—principally those on the Golden Mile at Kalgoorlie — have yielded 18,385,548 ounces.

THE GOLDEN MILE

Three hundred and seventy-five miles from Perth, in the midst of what had been regarded as a profitless waste of hungry sand, is the famous Golden Mile.

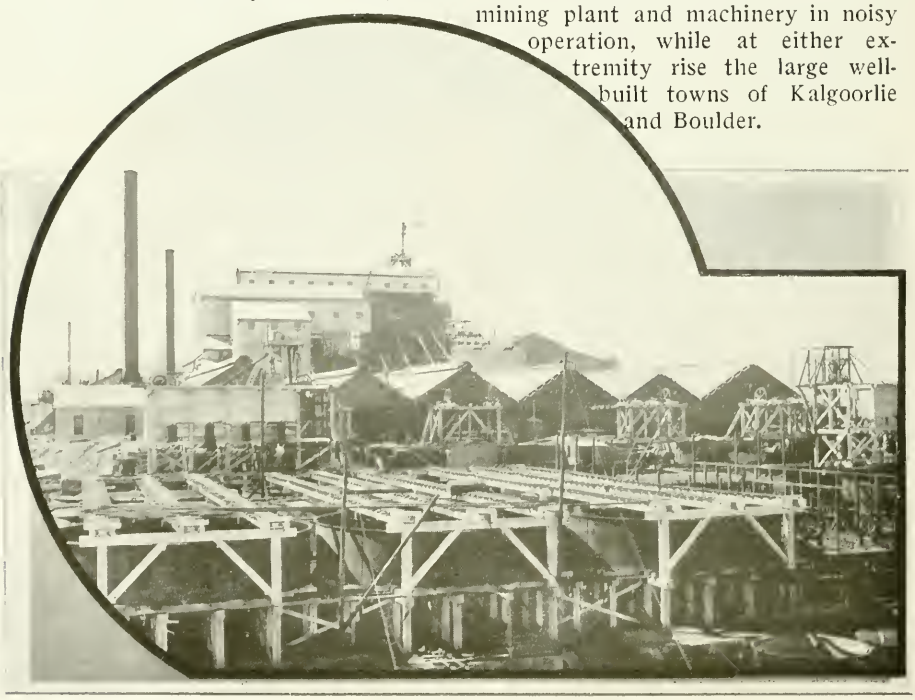


The primitive hand windlass in the day of small things has given place to a large and congested expanse of surface buildings, replete with the most modern machinery, while the huge dumps of spoil bear eloquent testimony to the labours of thousands of miners underground.

The East Coolgardie goldfields, principally those on the Golden Mile at Kalgoorlie, have yielded over eighteen and a quarter million ounces of gold.

The Golden Mile comprises a wonderful group of bonanzas

Chief among the mines on the 600 square miles of East Coolgardie fields is the wonderful group of the Golden Mile, so-called because it is one of the richest square miles of mineral country in the world. Where twenty-five years ago was silent, dreary desert may be seen to-day millions of pounds worth of mining plant and machinery in noisy operation, while at either extremity rise the large well-built towns of Kalgoorlie and Boulder.

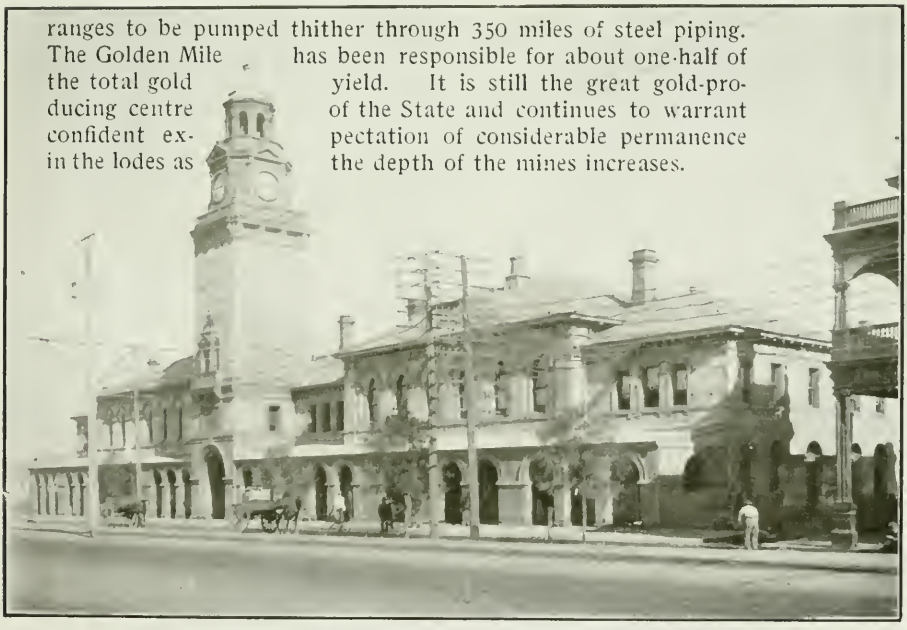


Enormous surface plants have been established on the Boulder Mines

THE CITY OF THE DESERT

The twin towns of Kalgoorlie and Boulder present a striking appearance of modernity, and are complete in the comforts, facilities, and luxuries of civilisation. Solid and imposing is the architecture of the public buildings; veritable oases are the charming parks and gardens made possible by that triumph of engineering skill which enables water conserved in the coastal ranges to be pumped thither through 350 miles of steel piping. The Golden Mile has been responsible for about one-half of the total gold yield. It is still the great gold-producing centre of the State and continues to warrant confident expectation of considerable permanence in the lodes as the depth of the mines increases.

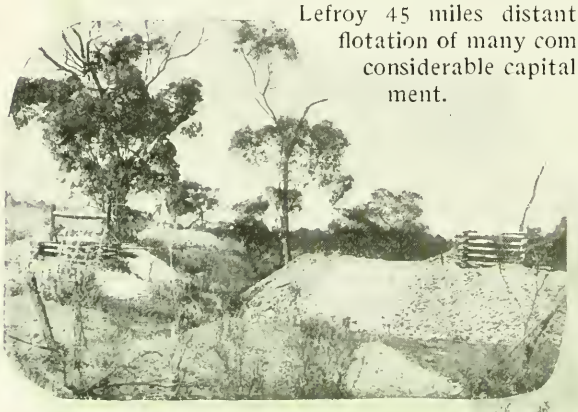
Modern Kalgoorlie *en fete*

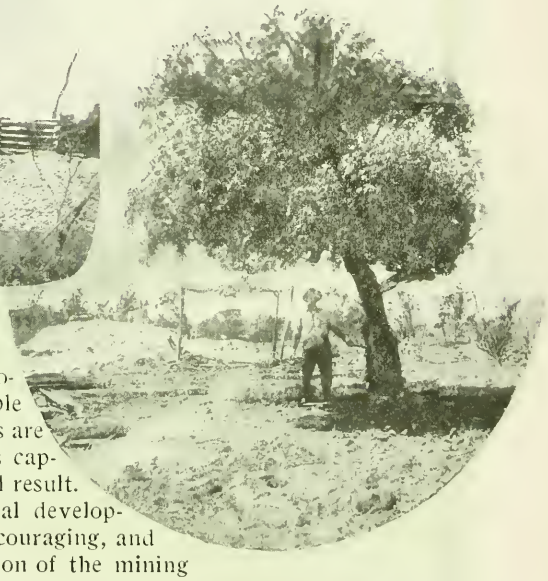


Kalgoorlie Post Office

NEW DISCOVERIES

Several new discoveries made during the present year have aroused public interest in the gold mining industry to a pitch of expectancy reminiscent of its palmiest days. These finds have been reported from three different centres, all situated South-East of Kalgoorlie — at Hampton Plains 16 miles distant, at Mt. Monger 30 miles distant, and at the Southern end of Lake Lefroy 45 miles distant, and have led to the flotation of many companies and the raising of considerable capital for the work of development.





While it is yet early to expect that these fields will provide any sensations comparable to those of the nineties, experts are optimistic that payable mines capable of steady production will result. In several instances the initial developments have been decidedly encouraging, and such as to fortify the conviction of the mining community that the industry has much of its greatness still before it.

MAP OF
WESTERN AUSTRALIA
Shewing Goldfields & other Mining Districts
1920
Scale of Miles
REFERENCE
Railways shown thus
Telegraph Lines & Stations
Stock Routes
Steamer Routes
KIMBERLEY
DIVISION
WEST KIMBERLEY
KIMBERLEY G.F.
DAMPIER G.F.
JARMURA
YURABI
BULARA
MEDA
LUMAN
PARDU
PILBARA
DE WITT
W. PILBARA G.F.
PEAWAH
FORREST
GOLDFIELD
ASHBURTON
GREGORY
LYNDON
WINDELL
NORTH WEST
HARDEY
GASCOYNE G.F.
GASCOYNE
LYONS
TEANO
PEAK HILL
THADUNA
DIVISION
EASTERN DIVISION
MURCHISON
NOOKAWARRA
MURCHISON
EDEL
YALGOO
WABRAMBOO
NINGHAN
NABBERU
YELINA
EAST MURCHISON
MT MARGARET
KALUWIRI G.F.
NULFRI G.F.
BULGA
NORTH COOLGARDIE
G.F. EL JUDINA
YILGARN
COOLGARDIE
COOLGARDIE
LEAKE
DUNDAS G.F.
PHILLIPS RIV.
EUCLA
DIVN
SOUTH WEST
DIVISN
INDIAN OCEAN
SOUTH AUSTRALIA
THE GREAT AUSTRALIAN BIGHT
ARCHIPELAGO OF THE RECHERCHE
Tropic of Capricorn
Longitude 121° East of Greenwich
GOVT PRINT.

VIEWS OF HAMPTON PLAINS

"Upon more than one occasion it has been officially pointed out to the Government that, having due regard to the extent of the ore-bearing formations, and the fact that Western Australia has been remarkably stable and quiescent since early palaeozoic times, the State possesses almost limitless mining possibilities."

Thus the Government Geologist; and his opinion is supplemented in the following practical terms by the State Mining Engineer :—"The working of the fields has barely begun; active and systematic prospecting can hardly fail of being sooner or later well rewarded."

Hence the Government, in addition to assisting the industry to the fullest possible extent, seeks to foster and promote its expansion by rendering very substantial assistance to the prospector. In this the State effort has lately been seconded by the Commonwealth in connection with its work of repatriation, with the result that prospecting is now being conducted more widely and vigorously than ever before.

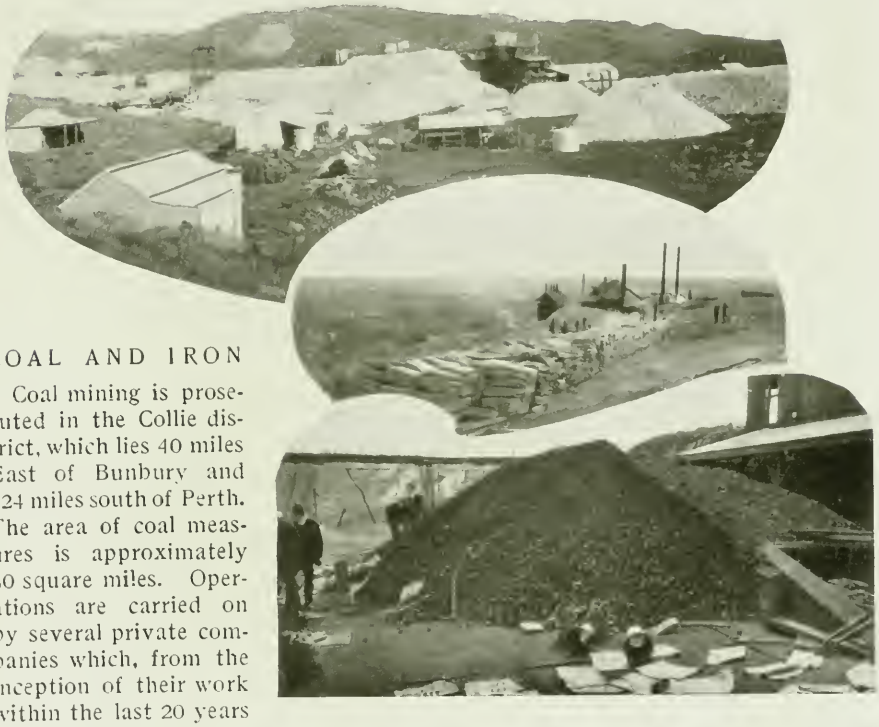
TIN FIELDS

Almost every mineral known to mining science abounds in Western Australia. The occurrence of gold is common to practically the whole of the State. Tin is found principally at Greenbushes and throughout the Pilbara field. The production of coal has been confined to the Collie district, though deposits of coal have also been located in other parts of the State. Copper is found at West Pilbara, Peak Hill, Lawlers, Meekatharra, and Phillips River, lead ore at Northampton, silver lead ore at Ashburton, pyritic ore at Mount Morgans and tantalite in the Marble Bar District.

Other minerals found in Western Australia include ironstone, arsenical ore, scheelite, magnesite, molybdenite, graphite, wolfram, antimony, asbestos, bismuth, gadolinite, limestone, mica and zinc.

COPPER MINING

The value of the mineral production, other than gold, to the end of 1919 was—copper £1,610,877 ; tin £1,428,107 ; lead and silver lead ore and concentrates £575,226 ; pig lead £440,820 ; coal £2,323,911. Other minerals, including mica and asbestos, accounted for £44,843.



COAL AND IRON

Coal mining is prosecuted in the Collie district, which lies 40 miles East of Bunbury and 124 miles south of Perth. The area of coal measures is approximately 50 square miles. Operations are carried on by several private companies which, from the inception of their work within the last 20 years to the end of 1919, recorded an output worth roughly two and a half millions sterling.

In these days when the nations of the earth are sizing up their coal measures and calculating the extent of their power resources at the present heavy rate of consumption, this asset of the State is receiving considerable attention.

COLLIE COALFIELDS

It is believed that the efficiency of Collie coal could be greatly increased if it could be manufactured into briquettes, and the efforts of chemists have for years been directed to discover a suitable process.

It seems that success has at last been attained, for one of the Collie companies has recently acquired the rights of such a patent. In the briquette form it is claimed that Collie coal will cost several shillings a ton less than New South Wales coal and will have a greater calorific value.

"One of the great iron ore deposits of the world," to quote the State Mining Engineer, exists at Yampi Sound on the North-West coast of the State. These deposits are contained in cliffs rising from deep water to a height of several hundred feet, and it is estimated that they will yield 97,000,000 tons of unusually pure ore from above the high water mark. Yampi Sound is a spacious and almost land-locked deep-water harbor. The largest vessels afloat could enter and leave at

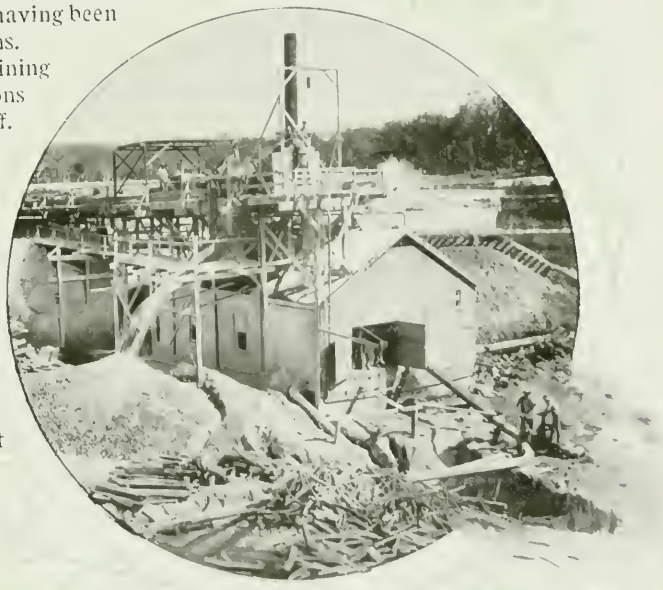
any state of the tide and could be loaded directly from the quarries by white labour at a cost of 2s. per ton. Investigations are now being made with a view to treating the ore locally by electrical process.

STATE BATTERIES

A State Battery

State Batteries have been established to assist those prospectors who are endeavouring to develop leases by their own efforts. In many instances it has been possible for the leaseholders to pay their way out of the value of the stone they have raised. The rates charged for treatment are such that a man in a remote district is placed on a footing similar to that of the miner in a more settled locality. At the end of last year, 30 batteries were at work and the ore treated totalled 1,237,000 tons for a yield of 1,191,000 ozs. From the tailings there has been recovered 197,371 ozs. The amount expended on the batteries is £378,213 and while operations have shown a loss, the benefit to the prospectors has been incalculable. The treatment of tin is also undertaken by the State, the quantity dealt with to date having been 79,276 tons for a yield of 969 tons.

In connection with the mining industry, scientific investigations are carried out by a capable staff. At Kalgoorlie, a well-equipped school of mines is maintained by the State at big expense. Free assays are made for prospectors, and in this department there has lately been a considerable increase in the volume of work done. Many inquiries have been made and answered regarding minerals of economic value which formerly were little sought after.



PERTH MINT

The Perth branch of the Royal Mint may be said to have been established in 1894, when the Government of Western Australia took the initial steps towards bringing that institution into being. The Mint was opened in 1899, since which year it has coined approximately 84 million sovereigns.

A goldfields garden—the result of the water scheme

GOLDFIELDS WATER SCHEME

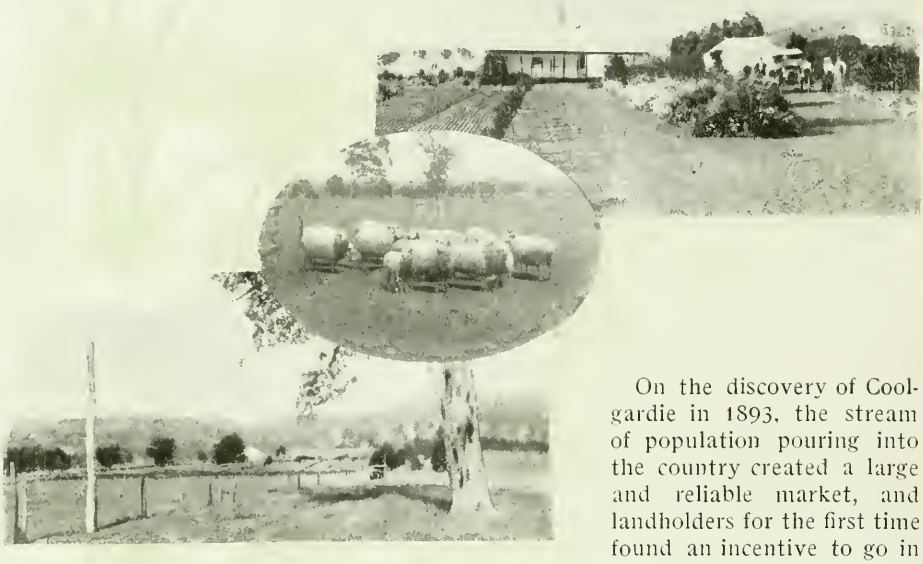
The water supplies for the goldfields are the special care of the State. In addition to the big scheme by which water is pumped from the Darling Range, the State maintains a Mines Water Supply Department. Its function is to undertake the construction of tanks or reservoirs for water conservation; to design and carry out larger water schemes intended to be handed over to local water boards; to survey, clear, and form the roads and tracks throughout the fields, and to bore for water and sink wells. When a new discovery is reported, provision is made to supply the locality with the least possible delay.

GOLDFIELDS WATER SCHEME

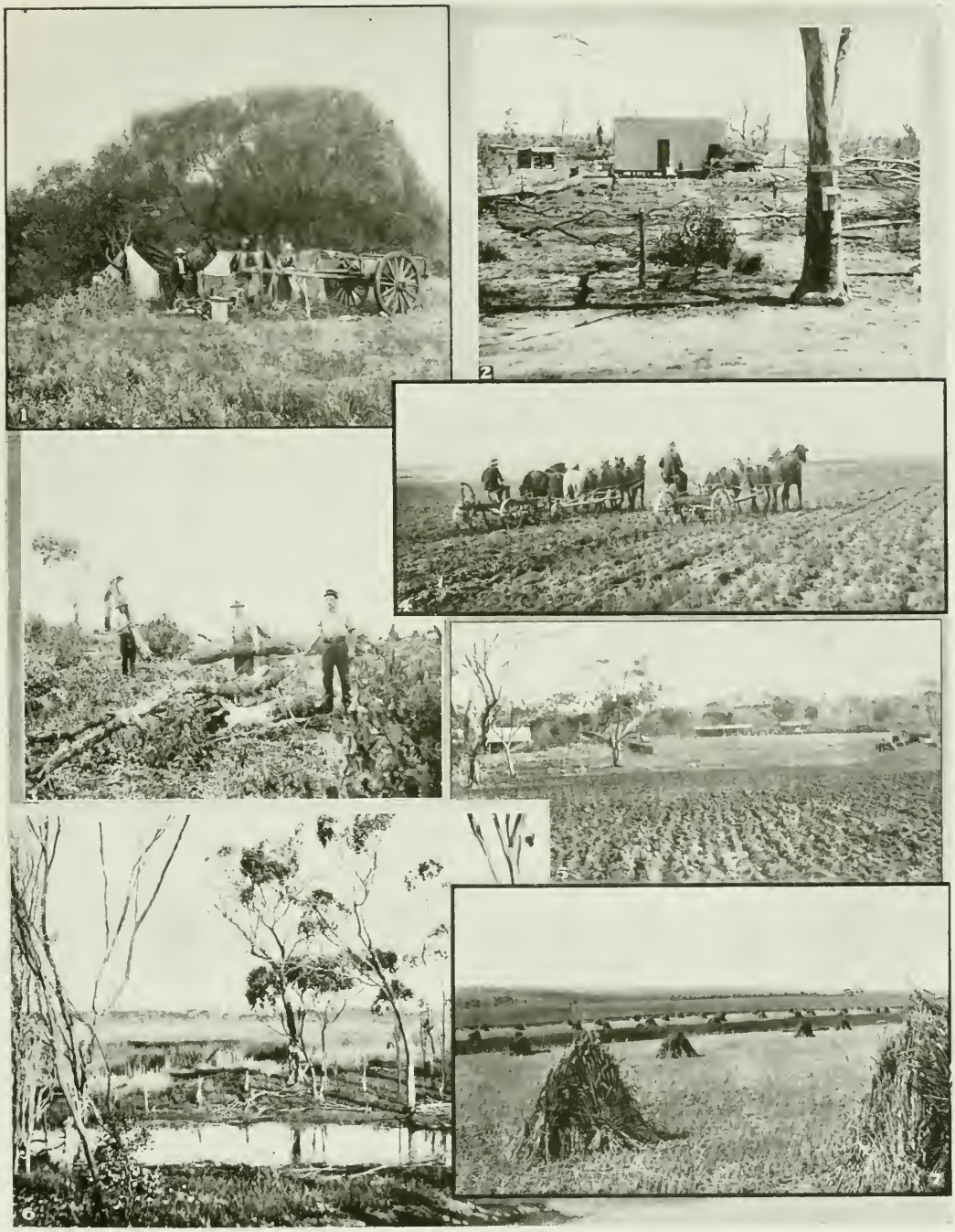
Showing the original site of the reservoir on the Helena River · the Mundaring Weir of 4,600,000,000 gallons capacity ; the seven-mile lake of impounded water ; one of the eight pumping stations ; section of the 30-inch steel main, and a garden of the interior made possible by the scheme. The water takes about a month to traverse the 351½ miles to Kalgoorlie.

AGRICULTURE

AGRICULTURALLY it seems but yesterday since Western Australia stepped into the limelight. Of course farming had been engaged in since the earliest days of settlement, but during the first sixty years the industry lacked any real status or prosperity. The chief value of the land was considered to lie in its sheep-carrying capabilities.



On the discovery of Coolgardie in 1893, the stream of population pouring into the country created a large and reliable market, and landholders for the first time found an incentive to go in for cultivation on a more extensive scale. Four years later, a further impetus was given to steady development by the throwing open for selection of the Great Southern lands which, together with the railway, had been taken over by the Government.



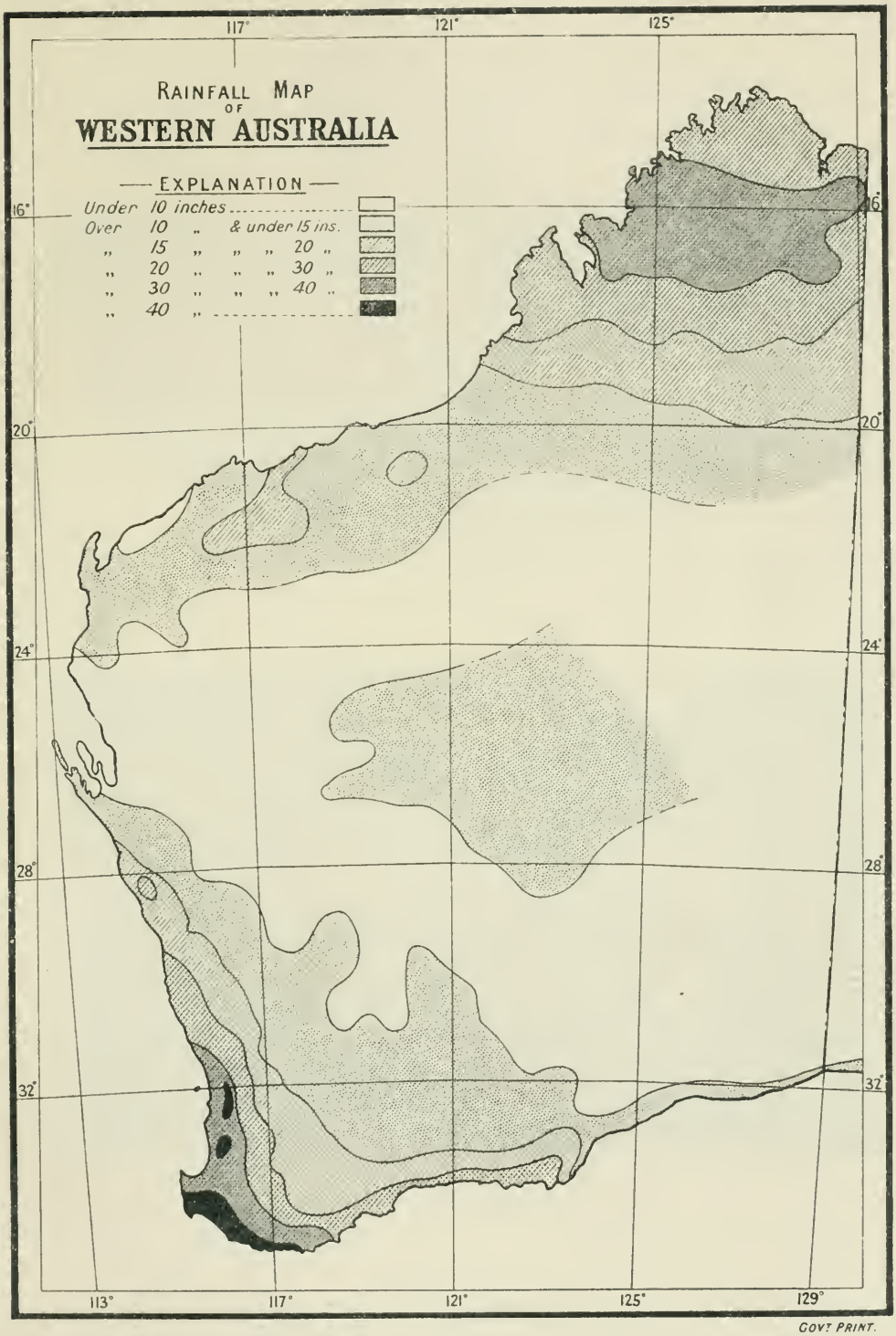
CONQUEST OF THE LAND

1. The settler's arrival
2. His first homestead
3. Clearing
4. Cultivating
5. The four-year old farm
6. Cultivation wedging into the forest
7. Labour's reward

Harvesting the crop

In 1903–4 came a more generous and general appreciation of our land resources. Quite suddenly, it seemed, people throughout the State turned from the obsession of gold to talk of production, and the talk was soon translated into action. Many abandoned the quest for gold to establish themselves in the more congenial role of husbandry, and this, curiously enough, at the very time when the production of the precious metal was at its maximum. Men of the State from almost every walk of life dropped their varied callings to face life anew as producers. Nor was the movement confined to this State. Interest spread to Eastern Australia, and thence many stalwart sons of toil crossed the Bight to carve for themselves new homes in the West. Thus was ushered in our second golden era.

A farmer's dairy herd

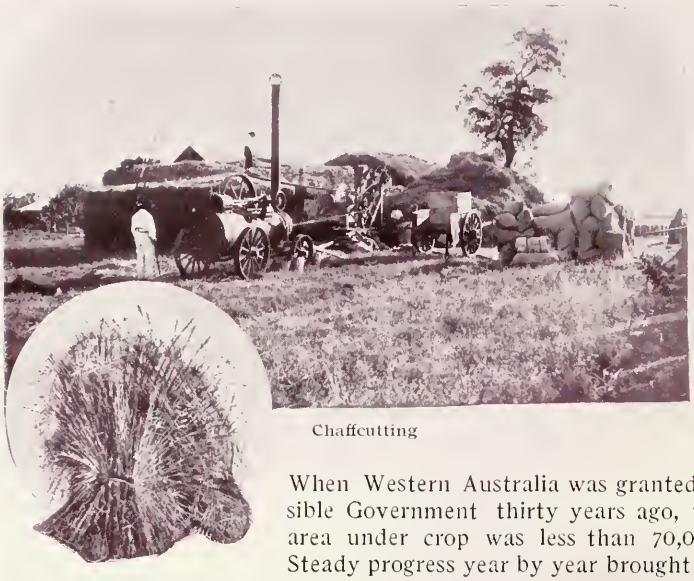

RAINFALL MAP
OF
WESTERN AUSTRALIA
EXPLANATION
Under 10 inches
Over 10 „ & under 15 ins.
„ 15 „ „ „ 20 „
„ 20 „ „ „ 30 „
„ 30 „ „ „ 40 „
„ 40 „
117°
121°
125°
16°
20°
24°
28°
32°
113°
129°

GOVT PRINT.

Scooping out a tank

A shelter clump of gimlet trees in a wheat field

The South-Western Division of the State—a proved agricultural belt 600 miles by 200 miles—contains 38 million acres suitable for wheat and sheep, 7 million acres for fruit, sheep, and cereals, 6½ million acres for dairy produce, stock, and potatoes, and 4½ million acres for stock only.



Chaffcutting

When Western Australia was granted Responsible Government thirty years ago, the total area under crop was less than 70,000 acres. Steady progress year by year brought the total to 2,189,000 acres in 1916 and, in addition, there were 295,000 acres newly cleared and prepared for cropping, 686,000 acres in fallow, and 4,750,000 acres partially cleared.

Near Geraldton

Since 1916, there has been a slight shrinkage owing to the war, but with the repatriation of our soldiers, which is proceeding apace, and a vigorous immigration policy, for which preparations are already well advanced, the rapid expansion of former years should be fully maintained if not greatly exceeded.

A homestead in the Great Southern country

In the Eastern and Midland Districts stock and wheat thrive equally well

The crop yields for the past season were—Wheat, 12,276,560 bushels (average 11.41 bushels per acre); Oats, 3,328,320 bushels (average 15.19); Barley, 164,332 bushels (average 15.04); Oaten and Wheaten Hay, 319,680 tons (average 1.12). The record wheat yield for the State was 18,236,355 bushels in 1915–16.

Modern transport

Wheat awaiting shipment

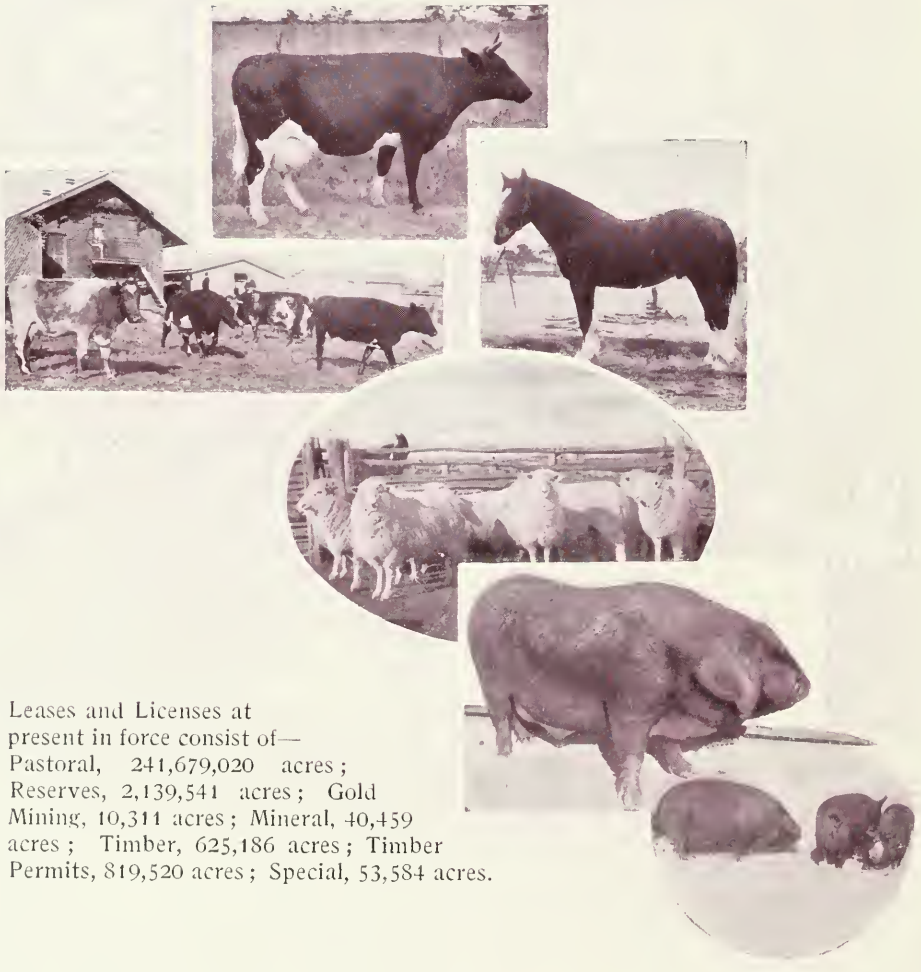
The values of the principal crops produced last season were—Wheat, £2,211,347; Hay, £1,412,716; Green Forage, £43,326; Oats, £296,813; Barley, £22,908; Orchards, £422,249; Potatoes, £152,061; Onions, £9,234; Market Gardens, £113,584; Vineyards (including Wine), £53,370.

In 1907 Western Australia first produced wheat sufficiently in excess of home requirements to give her a place among the countries that help to feed the multitudes of other lands. The value of wheat exported in that year was £96,675. In 1916–17 the value of wheat exported was £1,619,630.

A harvest picture at Katanning, on the Great Southern Railway.

Here are a few figures that tell the story of progress in land settlement during the last twenty years—

	1900 acres	1920 acres
Area alienated	3,413,529	8,605,479
Area in process of alienation	3,065,420	13,237,947
Leases and Licenses in force	90,314,932	245,404,589
Area unoccupied	527,794,919	357,340,785
Area of Western Australia ..	624,588,800	624,588,800

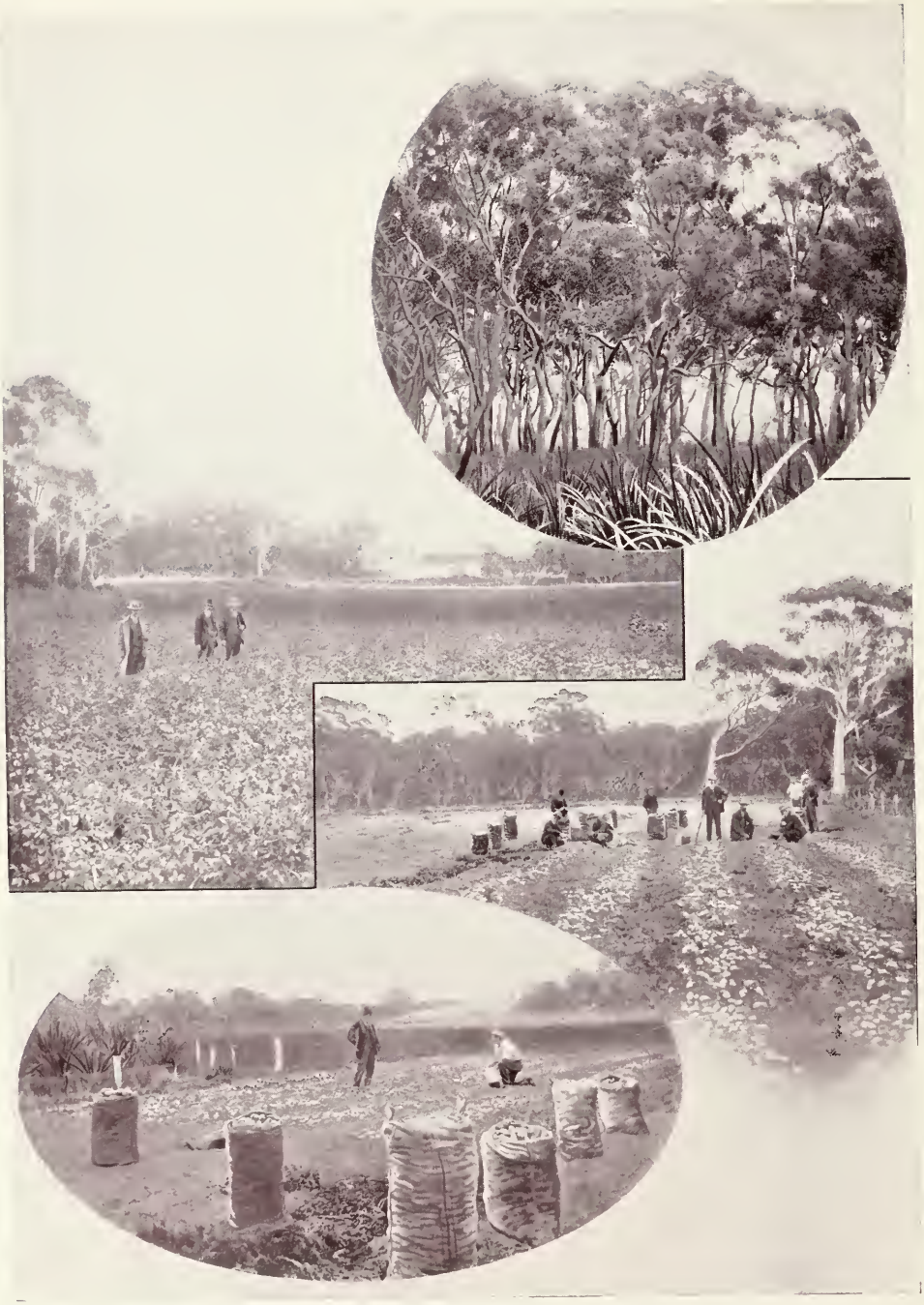


Leases and Licenses at present in force consist of—Pastoral, 241,679,020 acres; Reserves, 2,139,541 acres; Gold Mining, 10,311 acres; Mineral, 40,459 acres; Timber, 625,186 acres; Timber Permits, 819,520 acres; Special, 53,584 acres.

By exceedingly liberal land laws has the settlement of the State's broad acres been fostered, and by generous assistance afterwards have settlers succeeded in subduing the bush and establishing themselves upon their holdings. Through the medium of the Agricultural Bank and Industries Assistance Board, the Government have advanced £3,798,467 to assist the men on the land, of which amount about one-third has been repaid. The money has been utilised for clearing, cultivating, fencing, draining, water supplies, and buildings.

English rye

Maize crop on newly cleared ground



POTATO GROWING
Stages in the development of a Southern potato farm

REPATRIATION

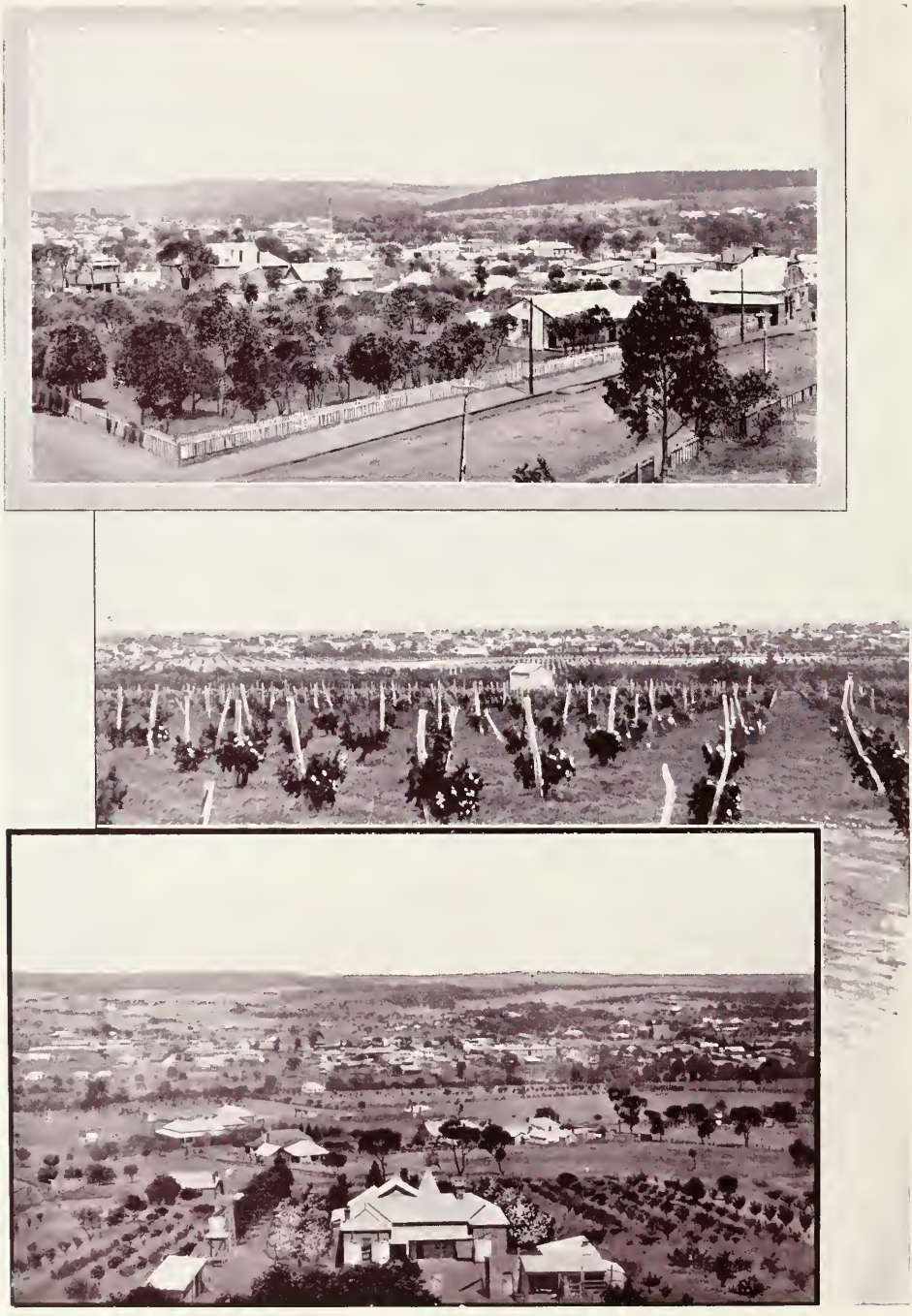
The present generation of West Australians have proved themselves worthy sons of worthy sires. When in the midst of ever expanding prosperity there came the call to arms, the manhood of Western Australia volunteered for service in numbers proportionately exceeding those of any other State of the Commonwealth. Now, with the strenuous days of war behind, many of our fighting men have answered the call to the land.

The Commonwealth Government controls all phases of repatriation except land settlement. In Western Australia this work is controlled by the General Manager of the Agricultural Bank. The avenues open to our soldiers embrace wheat, sheep, cattle, pig, poultry raising, dairying, intense culture, and orchard propositions. Land is provided from Crown lands, by the purchase of estates for subdivision, and of single farms representing the surplus of holdings by established settlers.

Advances are made up to a maximum of £2,000 to start the soldier on a going concern, and concessions are made in interest rates, fees, and land prices. A soldier taking up Crown land receives 160 acres free and 840 acres at half-price. Experienced inspectors control the operations of the new settlers and visit the farms regularly to assist and advise. Soldiers require certificates of qualification as farmers before coming under the scheme, but men without experience are trained with established settlers and receive maintenance while training.

At the end of April the number of soldier applicants was 5,100, soldiers actually settled 2,600, soldiers training 92, Agricultural Bank advances authorised £2,172,167, expenditure on purchase of estates £375,631.

Soldiers' Institute, Perth



Three agricultural towns—Northam, Katanning, York

DAIRYING

Dairying as an industry is somewhat backward. True, production has increased greatly—that of butter has more than trebled in the last few years—but chiefly through the aggregation of tit-bits. Though diversity of production on individual holdings is a wise policy, dairying is capable of better things than for ever being a mere side line to other rural effort. Growers of wheat, wool, meat, and fruit have to seek abroad for markets to absorb their surplus products. Not so the dairy farmer. For him there is a local market ravenous for his butter, milk, cheese, eggs, bacon, ham, etc., and we have the land to produce all our requirements and more.

In the extreme South-West corner of the State, says expert opinion, there are thousands of acres of virgin country eminently suited for dairying. It has permanent rivers and a 50-inch rainfall, and water is obtainable almost anywhere by sinking. It is very similar to portions of the North Coast of New South Wales and Queensland, where new country has been converted into grassland and successfully dairy-farmed within a few years.

South-West dairy herd

In the South-West irrigation is rendered easy by the abundance of running water

AGRICULTURAL EDUCATION

Agricultural education is begun in the primary schools by courses of Nature study in the lower and intermediate forms and experimental work in the upper standards. From the primary schools, boys may pass to the district high schools for general education, which includes a science course bearing upon agriculture.

The Narrogin School of Agriculture is open to lads of 14 leaving the primary schools, and provides a two years' course divided between class instruction and out-door work on alternate days. The out-door work includes all the cultural operations of the mixed farm, the care of stock, gardening, orchard work, and ordinary repairs. The class work includes courses in agricultural science, mathematics, and geography up to the standard of the junior certificate of public examinations. Students who qualify for this certificate are able to proceed to the diploma course in agriculture at the University.

The Narrogin institution also provides a degree course similar to that of other Universities. The curriculum of the B.Sc. requires three years to complete and an additional year at farm work if the candidate is without previous experience in farming. Before beginning work at the University, candidates are required to matriculate in the faculty of science.

To demonstrate the possibilities of farming on up-to-date lines, State farms were established in various centres, and having achieved that object, they are now conducted as experimental stations for the production of true-to-name cereals, the raising of pure-bred stock, and the demonstration of the most approved methods of farm, station, and dairy management.

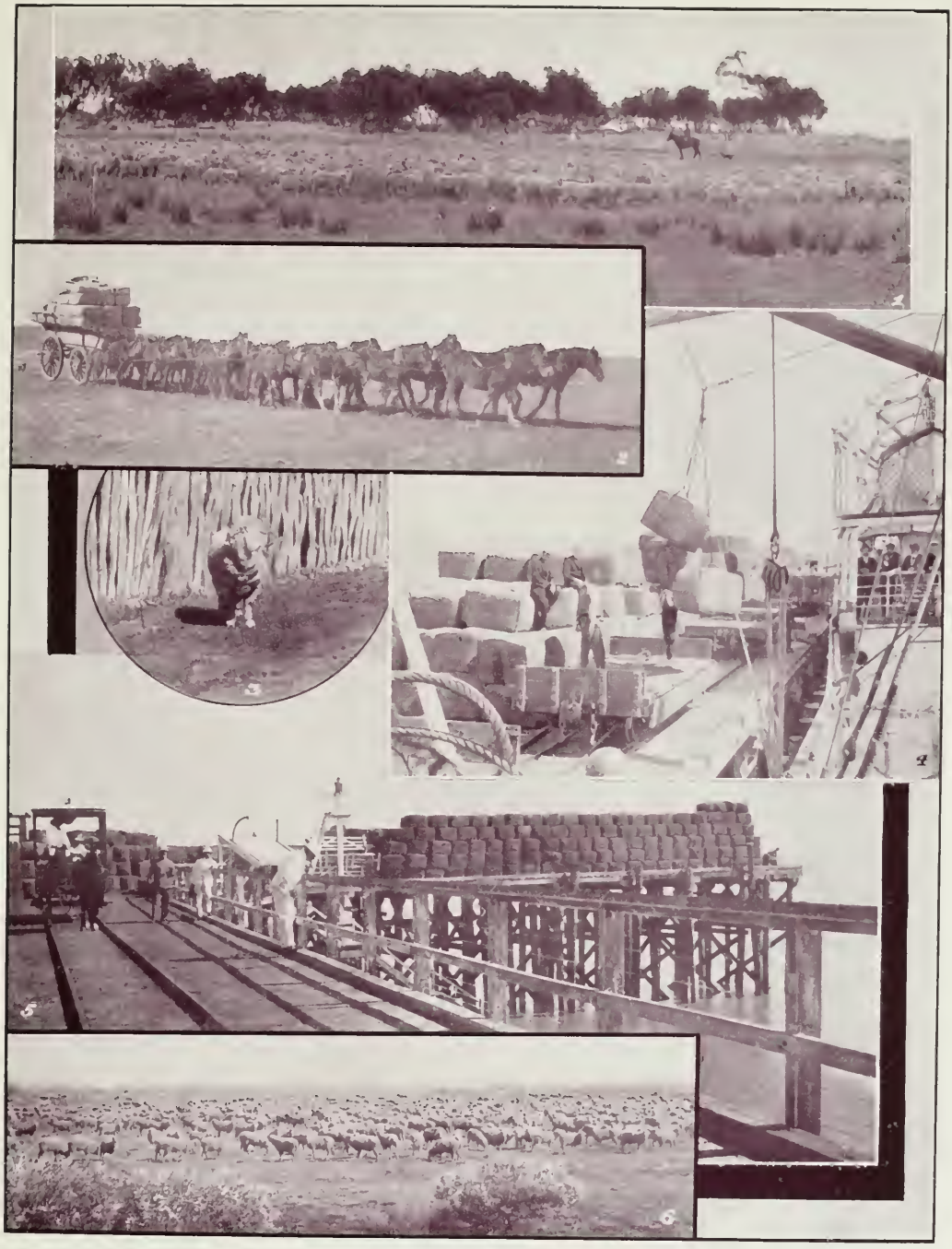
Narrogin School of Agriculture—
Students and their work

In addition there are three experimental farms in the wheat areas. To further assist the primary producer the Government employs specialists who keep in close touch with all branches of the industry, so that expert advice may be had for the asking.

OF the early days of the Swan River settlement we are told—" the timber is too thick for flocks and herds: therefore the squatting districts are eastward of the dividing range and North of the Swan."

Forced into the van of civilisation from the very beginning of the colony's existence, the pastoralist has remained there ever since. He has been the pioneer of pioneers,—pushing into the primeval wilderness, occupying and proving the country, and then moving out still farther to make way for the farmer and other rural producers. And to the pastoralist Western Australia still looks to occupy most of her huge areas of idle lands and bring them under profitable production.

Various modes of transport



1. Mustering
2. Wool *en route* to the coast
3. An aristocratic sire
4. Shipping wool at a North-West port
5. Wool on the jetty at Derby
6. Ready for the shearer

A station scene

Merino rams

Ewes and lambs on a Murchison station

A typical southern homestead and (inset) fat sheep in the Berkshire valley

Fifty years ago our sheep numbered but half a million and cattle some forty thousand head. Then came the revelation by explorers of considerable areas of pasture in the North and North-West, and men of grit and enterprise were not lacking to take advantage of such favourable conditions. The real development of the industry dates from this time. The stocking of runs proceeded rapidly and many first-class animals were imported to improve the quality of the flocks and herds.

The annual production of the pastoral industry has now reached the colossal figures of four and half millions sterling. In the last eighty years wool to the value of twenty-four millions sterling has been exported.

The wool clip for last season was estimated at over forty-five millions pound weight.

During the last four years the stock in the State has greatly increased in numbers, sheep from 4,500,000 to 7,200,000; cattle from 835,000 to 902,000; horses from 161,000 to 180,000; dairy cows from 28,000 to 42,000; and pigs from 59,800 to 85,800.

Midland pastoral scene

Sheltered pastures

Kimberley, in the far North, is used almost exclusively for cattle. Sheep are the principal stock depastured in the North-West.

With flocks and herds greatly in excess of our own needs, large quantities of meat are available for export, and everything that can be done is being done by the Government to encourage the establishment of cold storage and export works at the principal seaports.

At Wyndham the Government has erected large works for killing, freezing, and canning meat for export and utilising the by-products. The works are now in full swing and this season some 20,000 head of cattle will be treated.

Nutritious pastures and fat cattle

Greenough cattle pastures

Bearing in mind the immense proportions which the American meat trade has attained, one would be bold to venture to predict the possibilities that lie before the pastoral industry of Western Australia. The Trans-Australian Railway, which, between Kalgoorlie and the South Australian border, traverses

Stock parade at the Royal Agricultural Show

Horse breeding in the Midlands

some 400 miles of our territory, should bring within the realms of practical pastoralism the great areas of country northward from Eucla, and if those enthusiasts comprising the North-West Railway and Development League ever witness the realisation of their ambitions—the construction of a line from Meekatharra to the Northern Territory—the Kimberley country will be largely stocked with sheep, for which its carrying capabilities are undoubted.

Blood stock at the Royal Agricultural Show

An artesian bore

Durbar Spring
on the
Wiluna-Hall's Creek
stock route

In recent years the systematic conservation of water has done much to increase the carrying capacity of stations.

The tapping of the artesian basin has brought into use immense areas of country that previously were regarded as worthless.

In the heart of the continent—watering place on stock route

By Authority Fred. Wm. Simpson, Government Printer, Perth.

TIMBER

WESTERN AUSTRALIA'S hardwoods have a world-wide reputation for strength and durability. In its timbers the State has an asset supplying the staple of a big industry, and contributing largely to the prosperity of the country. Some years ago the then Conservator of Forests estimated that our forests contained marketable timber of a value of £124,000,000—a rough estimate, true, but indicative of the enormous wealth awaiting faller and sawmiller to be turned to account.

Of a total wooded area of 98 million acres, jarrah mainly, with blackbutt and red gum interspersed, represents 8,000,000 acres, karri 1,200,000 acres, tuart 200,000 acres, wandoo (white gum and allied timbers) 7,000,000 acres, York gum, yate, sandalwood, and jam wood 4,000,000 acres.

Our first shipment of hardwood was sent away in 1836—a modest parcel of 200 loads. In the year before the outbreak of the war, exports reached high water mark, 272,397 loads, valued at £1,089,481. The total quantity shipped to the end of 1919 is set down at 3,863,539 loads of a value of £15,683,012.

An important phase of the industry is the cutting of firewood for the mines. This timber is obtained from inferior belts in the goldfields areas, and the quantity used as fuel is very large. The mines on the Golden Mile alone account for 350,000 tons annually.

Mallet bark, valuable for tanning purposes, has been exported to the extent of nearly a million pounds worth. Kino impregnated bark of the red gum is being increasingly used by local tanners, and the fact that the raw material can be procured in enormous quantities and without destroying the trees makes this one of the most important of our forest problems.

Karri—the giant of our forests in some cases exceeds a height of 300 feet and a girth of 40 feet, and is branchless for the first 160 feet. Karri is chiefly used for superstructural work

JARRAH FOREST

Jarrah, foremost of Western Australian hardwoods, is extensively used for constructive purposes. Above or under the ground or in the water it stubbornly resists the ravages of white ants and the teredo. It also makes magnificent furniture

The Conservator of Forests is of opinion that sound investigation by a qualified leather chemist should result in the discovery of the best system of treating this powerful tanning agent to render it satisfactory for tanning heavy hides, and, once solved, there is no reason why blended tanning extracts should not be produced and a large export trade developed.

Nature is restoring many of the cut-out areas

The handsome blackbutt which intersperses the jarrah

TIMBER MILLING

1. Felling a giant
2. Hauling to the tramway
3. A bush siding
4. The sawmill
5. Breaking down
6. Street paving blocks for London

From the Far East comes a demand for our sandalwood, which is used for carving images and for ornamental work. In the early days, the sandalwood getter was the pioneer of civilisation in many districts, and a substantial industry has been built up. The year 1919 proved the most valuable recorded. Shipments during the twelve months totalled 8,998 tons worth £117,072, which brought the total exports to date to 321,369 tons of a value of £2,827,305. The timber, on distillation, gives a yield of about two per cent. of sandalwood oil. For this product, which last year amounted to 3,720 lbs., there is a ready market.

Minor forest products, of which there are many, form a source of potential wealth which has never been properly exploited. The Commonwealth Institute of Science and Industry has recommended the establishment of a forest products laboratory in Western Australia, and the State Government has agreed to assist the Federal enterprise by providing a site at Crawley and £5,000 towards the cost of the building. Thus aided by science, our forest industry bids fair to attain a full realisation of its undoubted capabilities.

Our hewn jarrah railway sleepers are used in all corners of the earth

Firewood cutting on the Goldfields

The Homestead

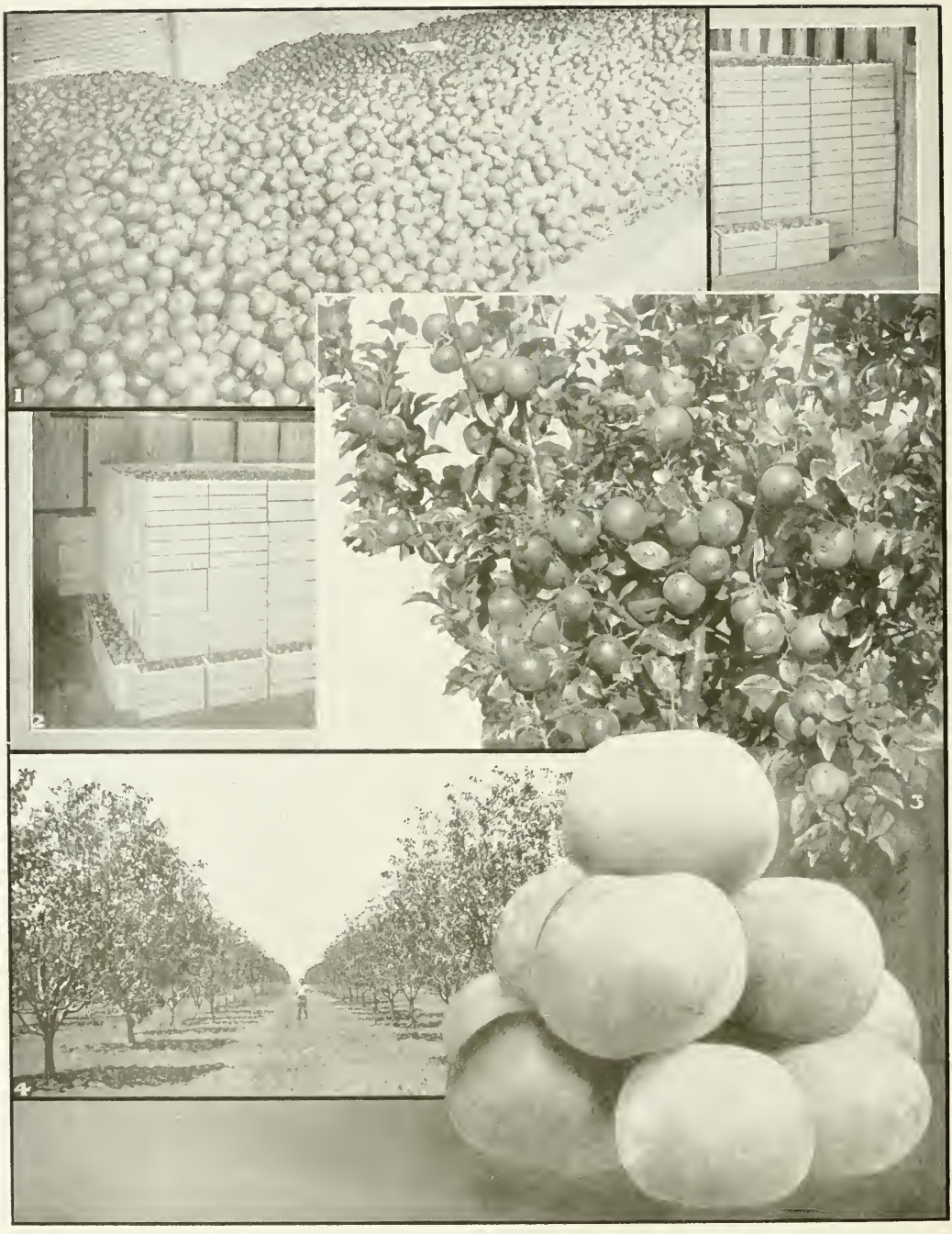
Glorious drives are to be had through the forests of the South-West

Spying out a holding

THE orchard areas of the State lie chiefly within the South-West Division where soil and climate combine to make the conditions for horticulture perfect. Apples, pears, plums, peaches, nectarines, apricots, figs, oranges, lemons, grapes, mulberries, strawberries, passion fruit, quinces, loquats, olives, and Cape gooseberries grow in profusion and yield prolific crops. Cherries, plantains, walnuts, almonds, and other varieties are also cultivated; in fact there is hardly a fruit of temperate or sub-tropical climes that does not flourish somewhere in Western Australia.

Most widely cultivated of all is the apple. Throughout the South and South-West areas it grows magnificently—faultless in form, rich in colour, unsurpassed for flavour.

Farm and orchard at Balingup



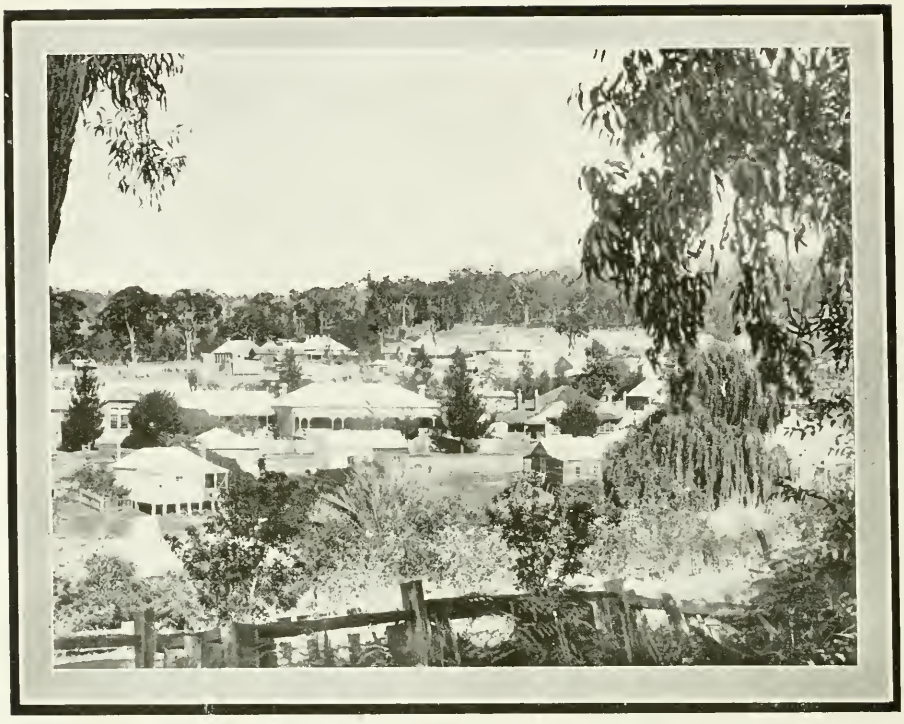
THE LUSCIOUS APPLE

1 £300 worth of apples 2. Packed for London 3. A heavy crop 4. Half-mile avenues of apple trees

Back in the days of the gold boom, fruitgrowing was restricted to a trifling area of a couple of thousand acres, that is exclusive of grape vines. With the stimulus of a heavier consumption consequent upon a greatly augmented population, steady expansion followed, and by 1909 the area devoted to the industry had increased sevenfold.

Groves splashed with the gold of ripening oranges

Meanwhile, production had overtaken the local demand and growers, with envious eyes on the highly remunerative London market, had tried their luck with a few experimental consignments. So satisfactory were the results that commercial lots were forwarded—9,000 cases in 1910, 28,000 cases in 1911—and Western Australia, against all Australia, had the gratification of securing the best prices for apples.



Bridgetown—prosperous fruitgrowing centre

Vine culture

Such signal success inspired a better appreciation of the capabilities of the industry. The area now under fruit comprises 23,400 acres. Of this nearly one-half is planted with apple trees. The trend of the industry is towards building up what in the near future promises to be a very large export trade. In this respect the last season was a record for the State. Between July of last year and April of this year shipments to countries outside Australia totalled 196,273 cases of which 177,446 cases were sent to England. One steamer, the "Wiltshire," lifted 50,142 cases.

The apples from this State have gained an excellent name in the overseas markets. The prices realised in London, where the fruit is sold in competition with that from the Eastern States, are usually higher by 1s. to 2s. per case than those for the product of the other States.

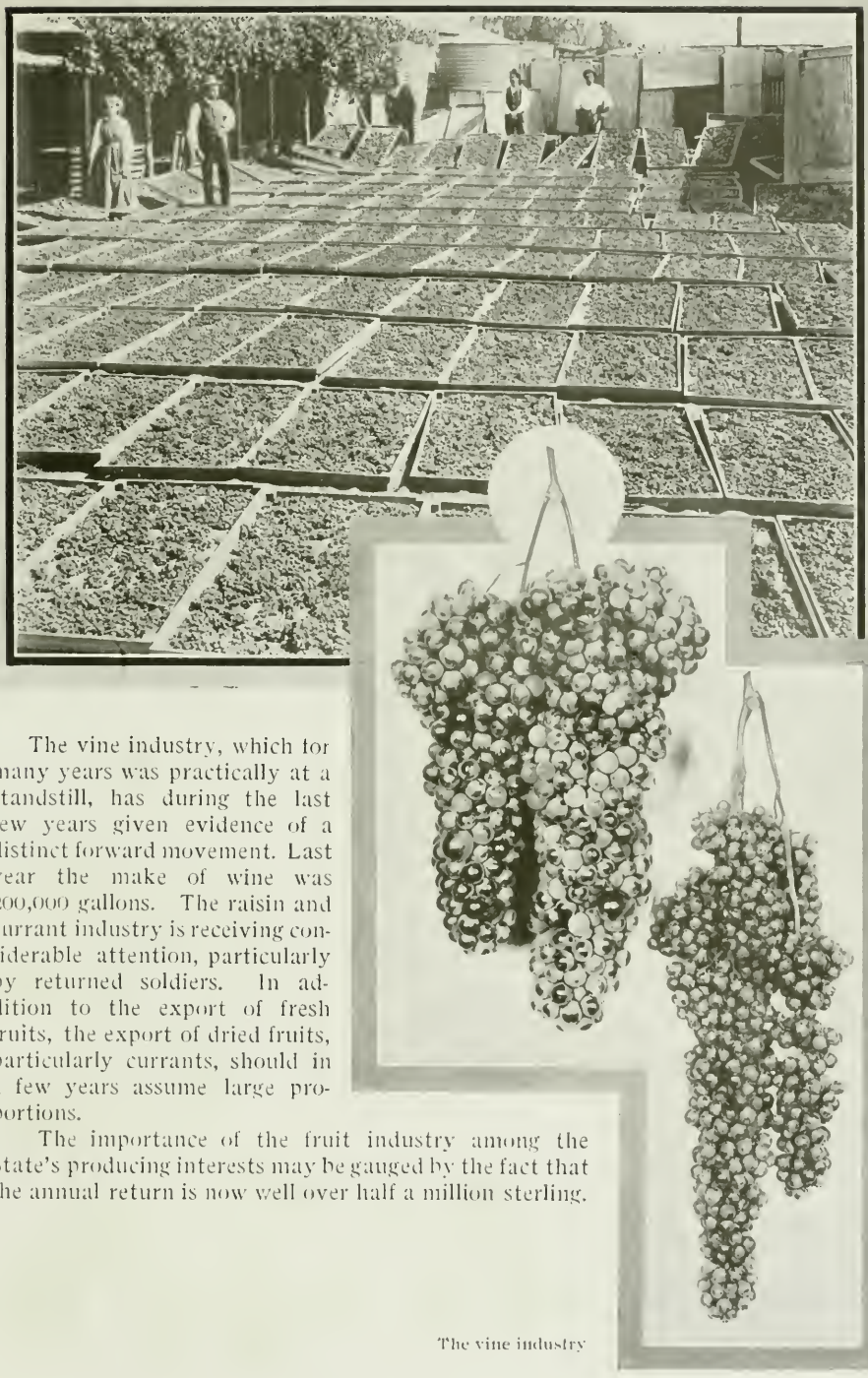
Outside of the English markets the principal places to which fruit is sent are Sourabaya and Singapore, though Hong Kong, Colombo, Durban, and Mauritius also share in the trade.

Gathering the harvest

Choice samples—Figs grow to perfection

An export variety

A dozen oranges on one stem



The vine industry, which for many years was practically at a standstill, has during the last few years given evidence of a distinct forward movement. Last year the make of wine was 200,000 gallons. The raisin and currant industry is receiving considerable attention, particularly by returned soldiers. In addition to the export of fresh fruits, the export of dried fruits, particularly currants, should in a few years assume large proportions.

The importance of the fruit industry among the State's producing interests may be gauged by the fact that the annual return is now well over half a million sterling.

The vine industry

Rottnest Island –
once a penal station,
now a popular holiday resort

Pearling Fleet in a creek

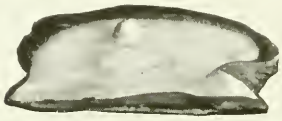
PEARLING

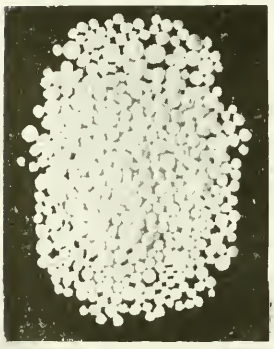
WESTERN AUSTRALIA produces more than one-half of the world's supply of pearl shell—1,400 out of a total of 2,000 tons. Our pearling dates back to the early fifties. It had its commencement at Shark Bay, whence operations extend northwards to Broome, the commercial base of the industry.

The pioneers engaged in hand picking and dredging, and in later years the returns from beachcombing and naked diving by aborigines financed many a Northern settler through the early years of pastoral enterprise. Nowadays the naked diver is not employed. The exploitation of the beds is carried on systematically and extensively, and the industry ranks prominently among the State's activities.

The maximum production, reached in 1913–14, represented a value of £84,000 for pearls and £237,000 for pearl shell. The industry suffered serious dislocation during the war, but the Government came to the rescue of the pearlers with guarantees of advances, under the influence of which buyers materially increased their prices. Thus assisted, the industry was successfully tided over the period of the war. Since then operations have been vigorously resumed, and, with high prices for shell still ruling, the outlook for the industry was never brighter.

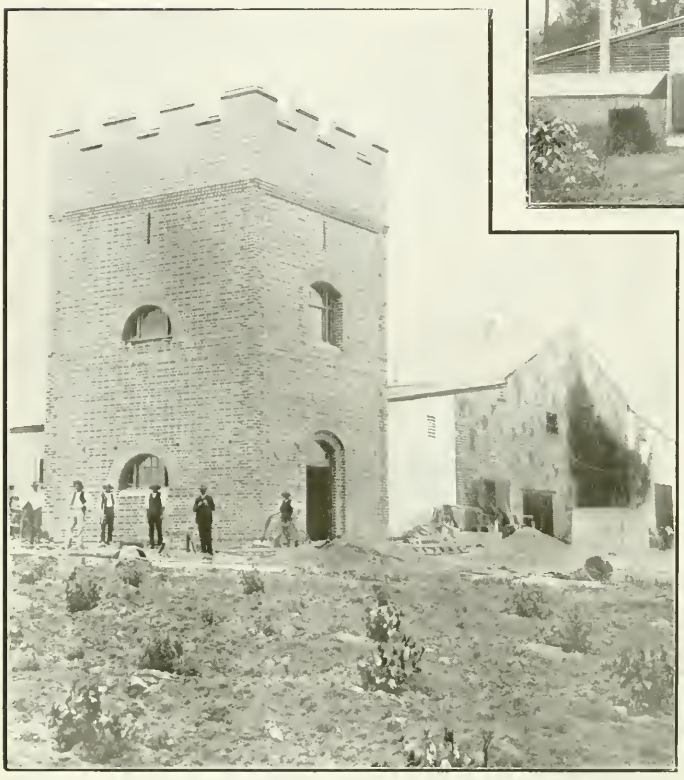
Broome
Pearling scenes





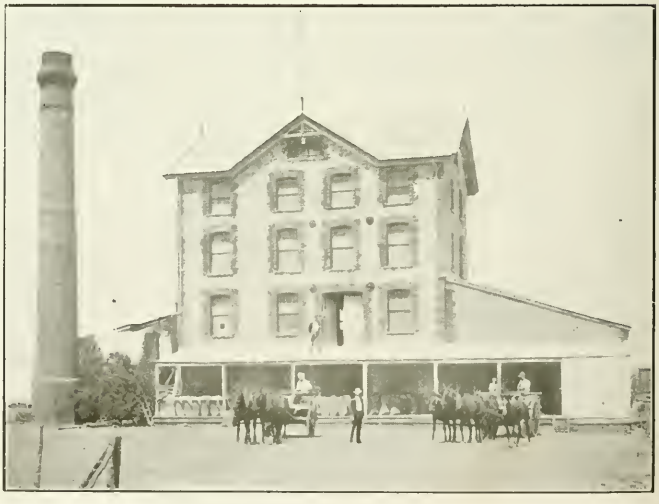
Broome
Pearling scenes

Jam making, fruit preserving, etc., is a growing industry



The vintage was nearly 200,000 gallons—the output of nine wineries.

Our sixteen flourmills made 120,000 tons of flour in the year



Superphosphate for the farmer is manufactured locally

Salt deposits of excellent quality are found at Rottnest, Esperance, and Port Gregory (north of Geraldton)

Apiculture has shown an improvement of 20 per cent. in the last four years. The take of honey for the year was 416,000 lb.

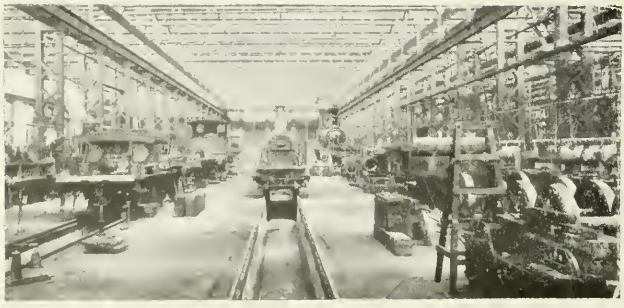
Donnybrook in the South-West supplies freestone of superior quality for city architecture

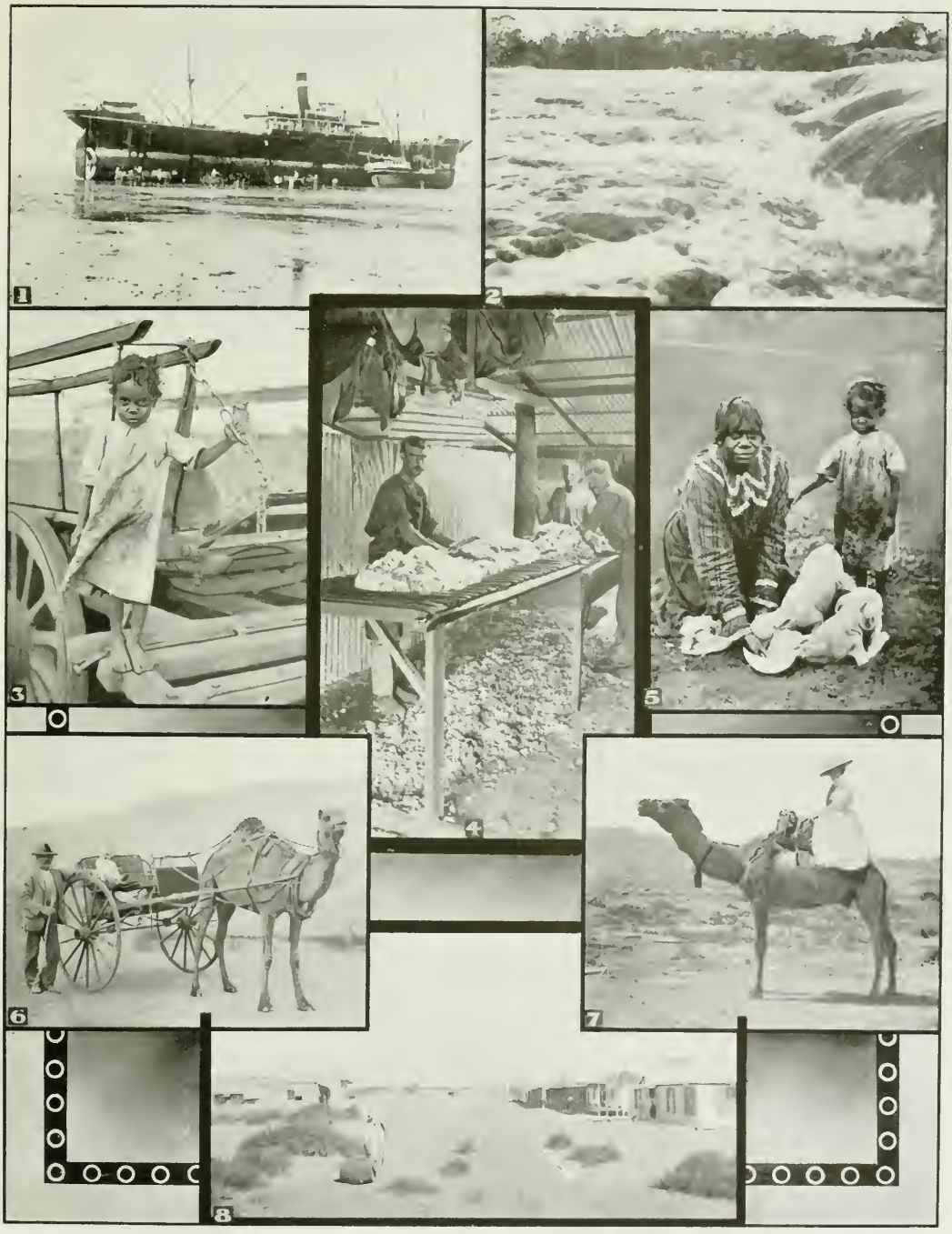
State Implement and Engineering Works, established in 1912, keep a check on prices of agricultural machinery

State Saw Mills Department is operating six mills and two powellising plants

State-owned copper smelters at Ravensthorpe treat ores won mainly under primitive mining conditions

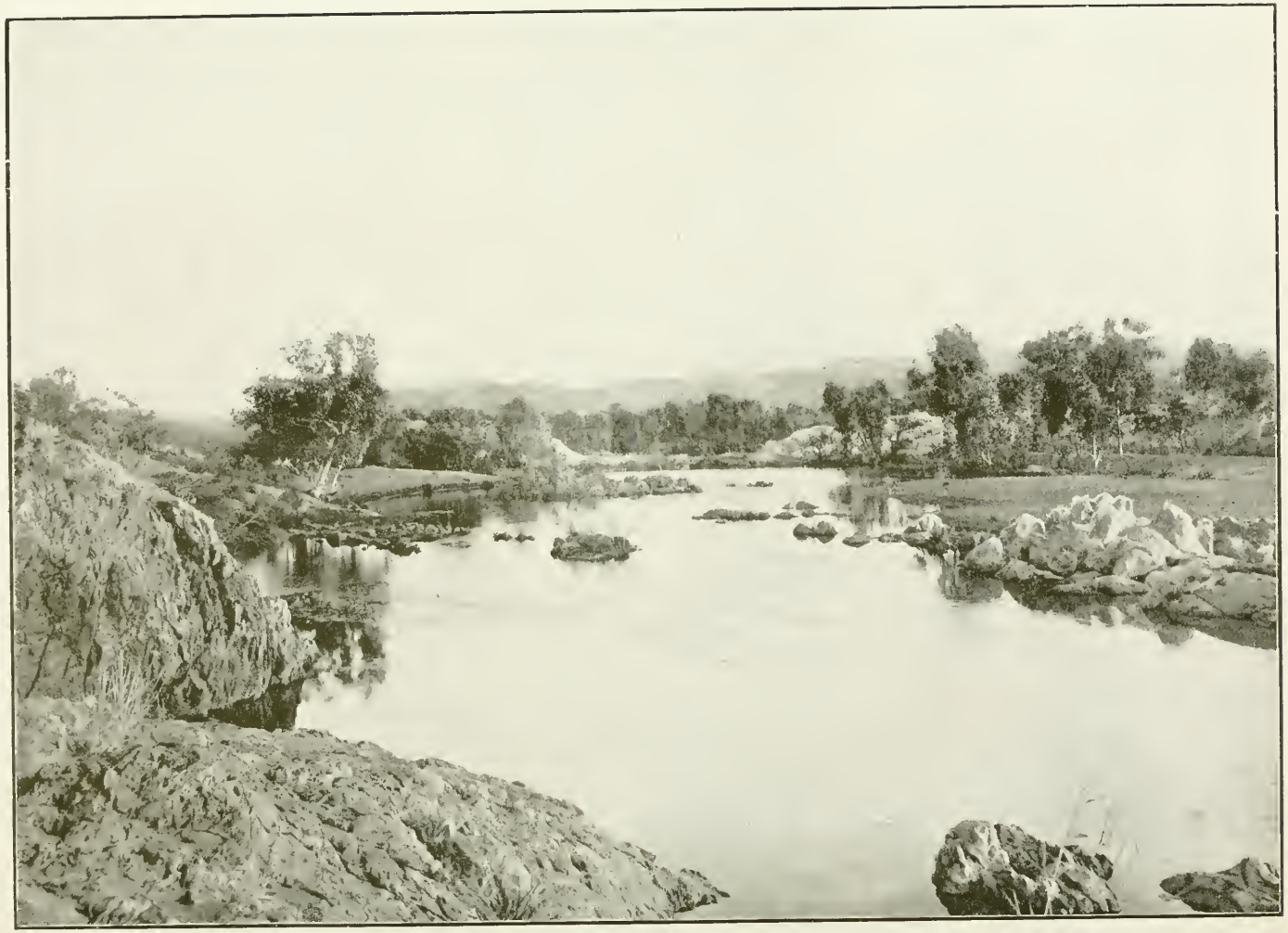
Government Railway Workshops, Midland Junction, manufacture and maintain locomotives and rolling stock





GLIMPSES OF THE NORTH-WEST

1. Low tide 2. Harding River in flood 3. The teamster's daughter 4. A woolshed in the tropics
5. Black and white 6-7. Ships of the desert 8. A coastal settlement



River pools near Marble Bar, in the North-Western interior

A gorge in the Pilbara country

A river in the tropics—Geike gorge, 200 miles up the Fitzroy

Port Hedland Township

A touch of the Orient. Broome, headquarters of the pearling industry

On the Ord river, in the far north

THE CAPITAL CITY

LAPPED by the broad blue reaches of the estuarine head of the Swan, girt with a background of partial embrace by the cerulean slopes of the Darling Range, with Mt. Eliza and its thousand acres of park reared like a sheltering promontory toward the seaward side—in this picturesquely varied setting stands the fair City of Perth.

View of Perth, from King's Park

Small though it be in contrast to the general run of capital cities, what Perth lacks in size it surely makes up for in charm of location. Viewed from the river, the prospect is always pleasing; glimpsed from coigns of vantage on the heights of King's Park, the city presents itself in vistas of entrancing beauty.

Perth from King's Park

Judged by the standards of modern town planning, the capital doubtless falls short of the ideal; measured by the facilities, comforts, and natural advantages that go to make life more than bearable, it might well evoke the envy of many an older and more populous city.

St. George's Terrace, Perth

When municipal government supplanted town trust control in 1871, Perth was an unpretentious town of some four thousand inhabitants, and a town it remained until the goldfields' prosperity of the stirring nineties inspired growth and dignity befitting the chief city of the State.

Climatically, Perth is happily circumstanced. Its winters are mild yet invigorating. Its summers, though often driving the mercury into three figures, are seldom trying, thanks to a lack of atmospheric humidity which in many countries makes a much lower temperature decidedly more enervating. Thanks also to the regularity of the calls of Mr. South-West Wind—colloquially termed the "Fremantle doctor"—the post meridian hours of the warmest days are usually tempered with refreshing zephyrs.

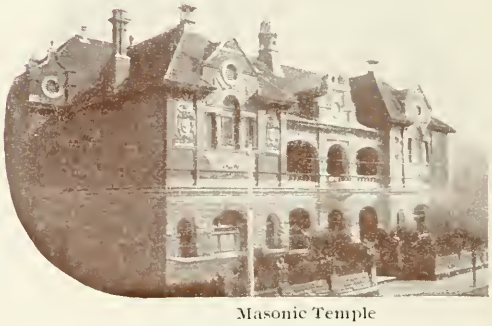
And between the two main seasons, Spring and Autumn give a succession of genial days when "to be alive is very joy." Add to this a keen official appreciation of the hygienic needs of an up-to-date city and you have the other great essential that makes Perth one of the healthiest and most desirable places to live in.

Queen Victoria Statue, King's Park

South African Soldiers' Memorial, King's Park

Perth Town Hall

A.M.P. Buildings



Masonic Temple

Within the last twenty-five years Perth has been practically rebuilt, and the metamorphosis has been complete. Buildings which had met the needs of the previous half century have given place to structures both commodious and imposing. To-day its banks, insurance offices, warehouses, commercial chambers, emporiums, clubs, churches, and public institutions stand a monument to the progressiveness, enterprise, and confidence of their builders, while architecturally many of the structures go far to supplement the natural beauties of the city.

PERTH ARCHITECTURE

1. Section of Government Offices
2. Museum and Art Gallery
3. The Royal Mint
4. Emanuel Buildings and Surrey Chambers
5. T. and G. Chambers

Government House

Government House, the official residence of His Majesty's representative, is prettily situated to overlook Perth water. It dates back to 1859, though in later years a ballroom and supper-room were added. The present Houses of Parliament, as yet incomplete, are a creation of the present century. The Town Hall was opened exactly fifty years ago, its designers, with an eye to utility, having planned the public hall on the first floor and market places underneath. The Mint, Public Library, Museum and Art Gallery are noteworthy piles, and the new General Post Office, situated near the Railway Station and now approaching completion, will be an acquisition to that part of the city.

Houses of Parliament

On the Swan River.
Reflections
Running Home
Moon-tide Heat.
Homeward Bound on a Calm Evening
Moonrise.
A Stiff Breeze

Aesthetically, Perth has been kept well abreast of the times. Of its chief show place—King's Park—the people are justly proud. The once low-lying foreshore at the river gate has

Avenue of flowering gums, King's Park

been reclaimed and converted into spacious recreation grounds, and carriage drives have been constructed along the full length of the river frontage.

Landscape garden, King's Park

Queen's Gardens, Perth

Numerous reserves, which in the not distant past were little more than sandy wastes, have been planted, grassed, and ornamented, providing beauty spots for the enjoyment of the people and ministering to those sometimes condemned sporting proclivities so dear to the hearts of all Australians.

Government Gardens

The many months of fine weather and the long hours of daylight are inducements to outdoor recreation

A busy day at Fremantle

CONSIDERING the immense coastline of Western Australia, the harbours are not numerous. The Fremantle harbour, at the mouth of the Swan River, though artificial, is among the most efficient of the Commonwealth. It is the first port of call for mail steamers from Europe, and the last port of call for vessels proceeding to Europe. Its trade figures bear favourable comparison with those of other Australian ports.

Shipping wheat

Berthing a mail steamer at Victoria Quay

Fremantle—portion of town and entrance to harbour (on right)

Albany Harbour
One of the most spacious and beautiful deep-water harbours of the world

Geraldton — some 200 miles north of Fremantle — is the port of the Murchison pastoral and mineral areas and the rich Greenough flats.

Geraldton Jetty

At Bunbury, engineering genius has provided a safe port. It is the busy port of the South-West—an outlet for timber, coal, and wheat

Along the North-West coast there are many ports, but their use is controlled by tides, the rise and fall being as much as 46 feet at King's Sound. Vessels tie up at North-West jetties at flood tide, and several hours later are high and dry on the sand.

Suburban service

THE first railway, a modest 35 miles of track, connecting Northampton with its port of Geraldton, was completed forty years ago. Two years later the Metropolitan-Suburban system was inaugurated with lines from Perth to Fremantle on the West and Perth to Guildford on the East. From these small beginnings have grown the present system, consisting of 3,539 miles of State-owned railways.

In addition there is the Midland Company's line of 277 miles joining the Metropolitan and Northern lines owned by the State, and the Commonwealth railway of 1,651 miles links the Western and South Australian systems. The capital cost of our State railways is eighteen millions sterling.

Central Railway Station, Perth

Gala day on the Swan

The flower-spangled slopes of the Darling Ranges

THE system of education, being free from the infant school to the University, practically attains Huxley's ideal of "a great educational ladder with one end in the gutter and the other in the University." Primary education is compulsory between the ages of six and fourteen, and special provision is made to ensure that children in the sparsely populated areas shall not lack its benefits.

Though secondary education is largely catered for by private establishments, the Government have in the Perth Modern School an institution which bridges the gap between the advanced primary school and the University.

Technical education is not confined to the metropolis, but wherever sufficient numbers can be obtained to form classes there a branch of the technical school is inaugurated, and an off-shoot has been the creation of continuation classes to provide instruction for youths between the ages of fourteen and eighteen. To augment the State's teaching staff, a training college gives a three years' course to candidates selected by competitive examination.

The University, still in its infancy and unable as yet to boast an imposing permanent home, is gradually approaching the goal of full establishment. Soon it is hoped to add Chairs of Medicine and Law so that Westralian boys and girls need not go outside their own State to graduate in the learned professions.

Among other educational institutions supported by the State are the Public Library, which contains 110,000 books, and the Museum and Art Gallery, which have exhibits worth £80,000.

Chief centre of technical instruction

Type of School in small settlements

Training College, Claremont

Freshwater Bay—a suburban view of the Swan River

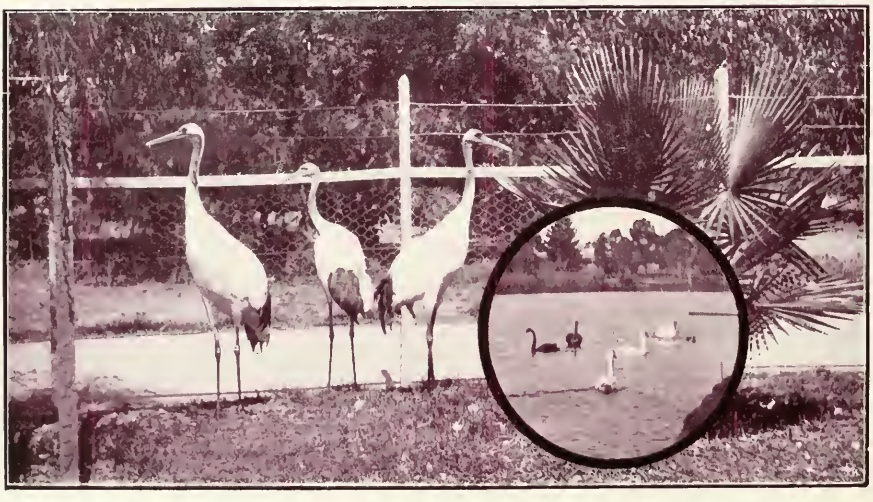
Suspended Table in the Lake Cave

South Perth, from King's Park

Beautiful Cave formations

Hannan Street, Kalgoorlie—the principal thoroughfare in the Desert City

Zoological Gardens,
South Perth



Everlastings mantle the country for miles

Wildflowers

The rich pastures of the Greenough Flats

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